


**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

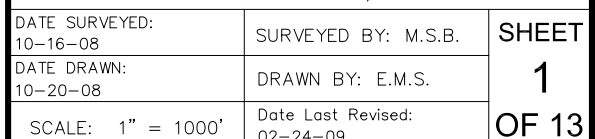
FORM 3

AMENDED REPORT ☐

|   |                  |  |  |   |              |                 |
|---|------------------|--|--|---|--------------|-----------------|
| <b>APPLICATION FOR PERMIT TO DRILL</b>  |                  |  |  | <b>1. WELL NAME and NUMBER</b><br>NBU 1022-10M1DS   |              |                 |
| <b>2. TYPE OF WORK</b><br>DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/> |                  |  |  | <b>3. FIELD OR WILDCAT</b><br>NATURAL BUTTES  |              |                 |
| <b>4. TYPE OF WELL</b><br>Gas Well <input type="checkbox"/> Coalbed Methane Well: NO <input type="checkbox"/>   |                  |  |  | <b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b><br>NATURAL BUTTES  |              |                 |
| <b>6. NAME OF OPERATOR</b><br>KERR-MCGEE OIL & GAS ONSHORE, L.P.  |                  |  |  | <b>7. OPERATOR PHONE</b><br>720 929-6587  |              |                 |
| <b>8. ADDRESS OF OPERATOR</b><br>P.O. Box 173779, Denver, CO, 80217   |                  |  |  | <b>9. OPERATOR E-MAIL</b><br>mary.mondragon@anadarko.com  |              |                 |
| <b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b><br>UTU 01196C   |                  | <b>11. MINERAL OWNERSHIP</b><br>FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>    |  | <b>12. SURFACE OWNERSHIP</b><br>FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/> |              |                 |
| <b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>  |                  |  |  | <b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>  |              |                 |
| <b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>   |                  |  |  | <b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>   |              |                 |
| <b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b>   |                  | <b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b><br>YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/> |  | <b>19. SLANT</b><br>VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>                               |              |                 |
| <b>20. LOCATION OF WELL</b>   | <b>FOOTAGES</b>  | <b>QTR-QTR</b>   | <b>SECTION</b>   | <b>TOWNSHIP</b>   | <b>RANGE</b> | <b>MERIDIAN</b> |
| <b>LOCATION AT SURFACE</b>  | 167 FSL 1765 FWL | SESW   | 10   | 10.0 S  | 22.0 E       | S               |
| <b>Top of Uppermost Producing Zone</b>  | 800 FSL 1030 FWL | SWSW   | 10   | 10.0 S  | 22.0 E       | S               |
| <b>At Total Depth</b>   | 800 FSL 1030 FWL | SWSW   | 10   | 10.0 S  | 22.0 E       | S               |
| <b>21. COUNTY</b><br>UINTAH   |                  | <b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b><br>800  |  | <b>23. NUMBER OF ACRES IN DRILLING UNIT</b><br>400  |              |                 |
|   |                  | <b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b><br>510  |  | <b>26. PROPOSED DEPTH</b><br>MD: 8788 TVD: 8610   |              |                 |
| <b>27. ELEVATION - GROUND LEVEL</b><br>5094   |                  | <b>28. BOND NUMBER</b><br>WYB000291  |  | <b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b><br>Permit #43-8496   |              |                 |
| <b>ATTACHMENTS</b>  |                  |  |  |   |              |                 |
| <b>VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES</b>   |                  |  |  |   |              |                 |
| <input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER  |                  |  | <input checked="" type="checkbox"/> COMPLETE DRILLING PLAN                 |   |              |                 |
| <input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)  |                  |  | <input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER |   |              |                 |
| <input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)  |                  |  | <input checked="" type="checkbox"/> TOPOGRAPHICAL MAP                      |   |              |                 |
| <b>NAME</b> Danielle Piernot  |                  | <b>TITLE</b> Regulatory Analyst  |  | <b>PHONE</b> 720 929-6156   |              |                 |
| <b>SIGNATURE</b>  |                  | <b>DATE</b> 08/13/2009   |  | <b>EMAIL</b> danielle.piernot@anadarko.com  |              |                 |
| <b>API NUMBER ASSIGNED</b><br>43047506360000  |                  | <b>APPROVAL</b><br><br>Permit Manager  |  |   |              |                 |

| Proposed Hole, Casing, and Cement |                     |             |          |             |  |  |
|-----------------------------------|---------------------|-------------|----------|-------------|--|--|
| String                            | Hole Size           | Casing Size | Top (MD) | Bottom (MD) |  |  |
| Prod                              | 7.875               | 4.5         | 0        | 8788        |  |  |
| Pipe                              | Grade               | Length      | Weight   |             |  |  |
|                                   | Grade I-80 Buttress | 8788        | 11.6     |             |  |  |
|                                   |                     |             |          |             |  |  |

| Proposed Hole, Casing, and Cement |                 |             |          |             |  |  |
|-----------------------------------|-----------------|-------------|----------|-------------|--|--|
| String                            | Hole Size       | Casing Size | Top (MD) | Bottom (MD) |  |  |
| Surf                              | 12.25           | 9.625       | 0        | 1970        |  |  |
| Pipe                              | Grade           | Length      | Weight   |             |  |  |
|                                   | Grade J-55 LT&C | 1970        | 36.0     |             |  |  |
|                                   |                 |             |          |             |  |  |

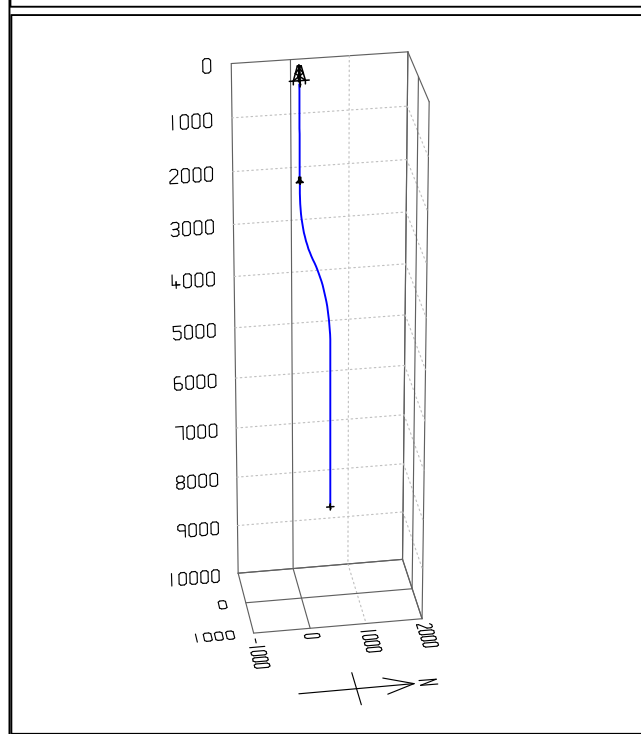
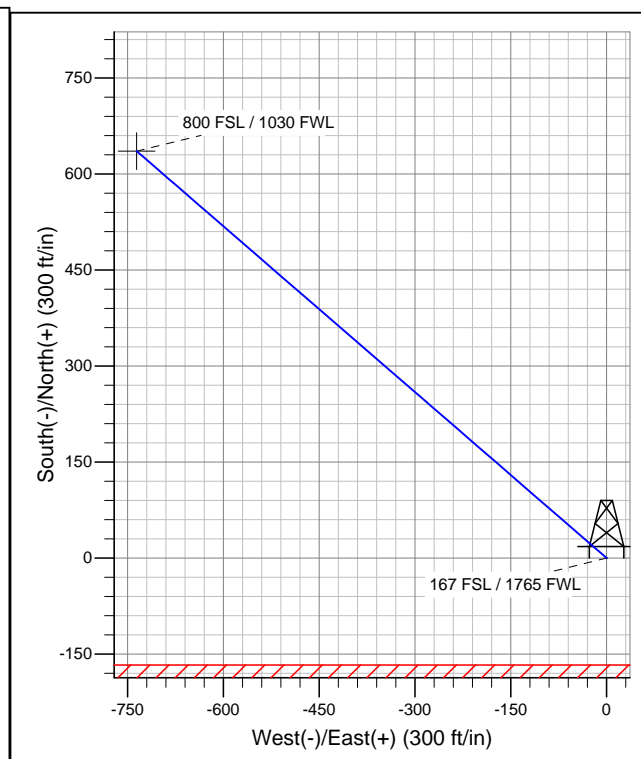
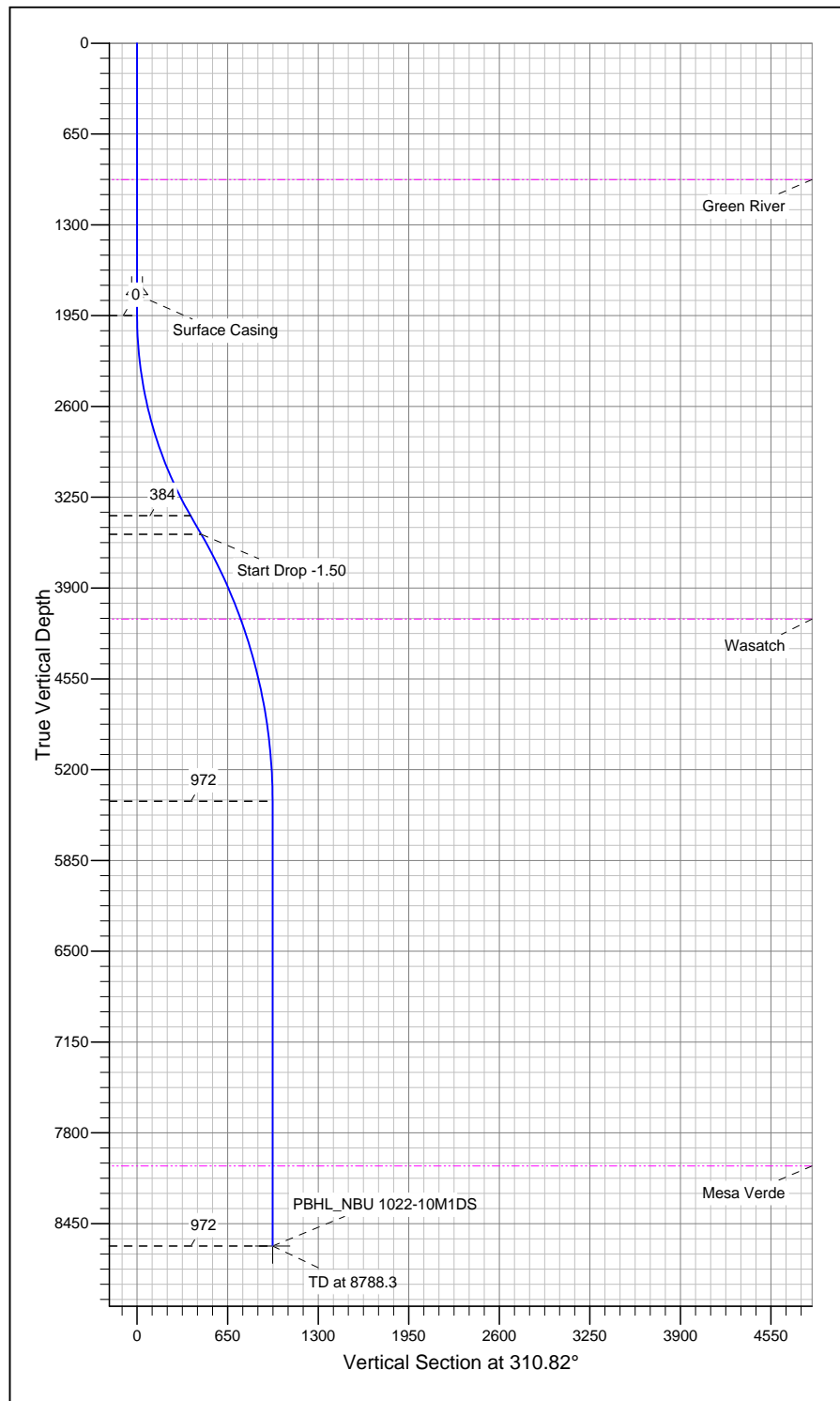




'APIWellNo:43047506360000'



Well Name: P\_NBU 1022-10M1DS  
 Surface Location: UINTAH\_NBU 1022-10N PAD  
 NAD 1927 (NADCON CONUS)US State Plane 1927 (Exact solution)  
 UTAH CENTRAL ZONE - 27  
 Ground Elevation: 5094.0  
 Northing 598009.98 Easting 2580665.85 Latitude 39.956732°N Longitude 109.428371°W



| SECTION DETAILS |        |       |        |        |       |        |      |        |       |
|-----------------|--------|-------|--------|--------|-------|--------|------|--------|-------|
| Sec             | MD     | Inc   | Azi    | TVD    | +N/-S | +E/-W  | DLeg | TFace  | VSec  |
| 1               | 0.0    | 0.00  | 0.00   | 0.0    | 0.0   | 0.0    | 0.00 | 0.00   | 0.0   |
| 2               | 1950.0 | 0.00  | 0.00   | 1950.0 | 0.0   | 0.0    | 0.00 | 0.00   | 0.0   |
| 3               | 3450.0 | 30.00 | 310.82 | 3382.4 | 250.9 | -290.4 | 2.00 | 310.82 | 383.8 |
| 4               | 3603.6 | 30.00 | 310.82 | 3515.4 | 301.1 | -348.6 | 0.00 | 0.00   | 460.6 |
| 5               | 5603.6 | 0.00  | 0.00   | 5425.2 | 635.6 | -735.8 | 1.50 | 180.00 | 972.3 |
| 6               | 8788.3 | 0.00  | 0.00   | 8610.0 | 635.6 | -735.8 | 0.00 | 0.00   | 972.3 |

Azimuths to True North  
 Magnetic North: 11.30°

Magnetic Field  
 Strength: 52557.4snT  
 Dip Angle: 65.91°  
 Date: 4/13/2009  
 Model: IGRF200510

# **ROCKIES - PLANNING**

**UTAH CENTRAL ZONE - 27**

**UINTAH\_NBU 1022-10N PAD**

**P\_NBU 1022-10M1DS**

**P\_NBU 1022-10M1DS**

**Plan: Plan #1 04-13-09 ZJRA6**

## **Standard Planning Report - Geographic**

**13 April, 2009**

# APC

## Planning Report - Geographic

|                  |                         |                                     |                                      |
|------------------|-------------------------|-------------------------------------|--------------------------------------|
| <b>Database:</b> | apc_edmp                | <b>Local Co-ordinate Reference:</b> | Well P_NBU 1022-10M1DS               |
| <b>Company:</b>  | ROCKIES - PLANNING      | <b>TVD Reference:</b>               | WELL @ 5094.0ft (Original Well Elev) |
| <b>Project:</b>  | UTAH CENTRAL ZONE - 27  | <b>MD Reference:</b>                | WELL @ 5094.0ft (Original Well Elev) |
| <b>Site:</b>     | UINTAH_NBU 1022-10N PAD | <b>North Reference:</b>             | True                                 |
| <b>Well:</b>     | P_NBU 1022-10M1DS       | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | P_NBU 1022-10M1DS       |                                     |                                      |
| <b>Design:</b>   | Plan #1 04-13-09 ZJRA6  |                                     |                                      |

|                    |                                      |                      |                |
|--------------------|--------------------------------------|----------------------|----------------|
| <b>Project</b>     | UTAH CENTRAL ZONE - 27               |                      |                |
| <b>Map System:</b> | US State Plane 1927 (Exact solution) | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | NAD 1927 (NADCON CONUS)              |                      |                |
| <b>Map Zone:</b>   | Utah Central 4302                    |                      |                |

|                       |          |                         |                |            |                   |        |
|-----------------------|----------|-------------------------|----------------|------------|-------------------|--------|
| Site                  |          | UINTAH_NBU 1022-10N PAD |                |            |                   |        |
| Site Position:        |          | Northing:               | 598,030.96ft   | Latitude:  | 39.956786°N       |        |
| From:                 | Lat/Long | Easting:                | 2,580,722.00ft | Longitude: | 109.428169°W      |        |
| Position Uncertainty: |          | 0.0 ft                  | Slot Radius:   | "          | Grid Convergence: | 1.33 ° |

|                      |                   |        |                     |                 |               |              |
|----------------------|-------------------|--------|---------------------|-----------------|---------------|--------------|
| Well                 | P_NBU 1022-10M1DS |        |                     |                 |               |              |
| Well Position        | +N/-S             | 0.0 ft | Northing:           | 598,009.98 ft   | Latitude:     | 39.956732°N  |
|                      | +E/-W             | 0.0 ft | Easting:            | 2,580,665.85 ft | Longitude:    | 109.428371°W |
| Position Uncertainty |                   | 0.0 ft | Wellhead Elevation: | ft              | Ground Level: | 5,094.0 ft   |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | P_NBU 1022-10M1DS |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF200510        | 4/13/2009          | 11.30                  | 65.91                | 52,557                     |

|                          |                              |                   |                      |                      |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| <b>Design</b>            | Plan #1 04-13-09 ZJRA6       |                   |                      |                      |
| <b>Audit Notes:</b>      |                              |                   |                      |                      |
| <b>Version:</b>          | <b>Phase:</b>                | PLAN              | <b>Tie On Depth:</b> | 0.0                  |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b>    | <b>Direction (°)</b> |
|                          | 8,610.0                      | 0.0               | 0.0                  | 310.82               |

|                            |                        |                    |                            |                   |                   |                              |                             |                            |                |                 |
|----------------------------|------------------------|--------------------|----------------------------|-------------------|-------------------|------------------------------|-----------------------------|----------------------------|----------------|-----------------|
| <b>Plan Sections</b>       |                        |                    |                            |                   |                   |                              |                             |                            |                |                 |
| <b>Measured Depth (ft)</b> | <b>Inclination (°)</b> | <b>Azimuth (°)</b> | <b>Vertical Depth (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b> | <b>Dogleg Rate (°/100ft)</b> | <b>Build Rate (°/100ft)</b> | <b>Turn Rate (°/100ft)</b> | <b>TFO (°)</b> | <b>Target</b>   |
| 0.0                        | 0.00                   | 0.00               | 0.0                        | 0.0               | 0.0               | 0.00                         | 0.00                        | 0.00                       | 0.00           |                 |
| 1,950.0                    | 0.00                   | 0.00               | 1,950.0                    | 0.0               | 0.0               | 0.00                         | 0.00                        | 0.00                       | 0.00           |                 |
| 3,450.0                    | 30.00                  | 310.82             | 3,382.4                    | 250.9             | -290.4            | 2.00                         | 2.00                        | 0.00                       | 310.82         |                 |
| 3,603.6                    | 30.00                  | 310.82             | 3,515.4                    | 301.1             | -348.6            | 0.00                         | 0.00                        | 0.00                       | 0.00           |                 |
| 5,603.6                    | 0.00                   | 0.00               | 5,425.2                    | 635.6             | -735.8            | 1.50                         | -1.50                       | 0.00                       | 180.00         |                 |
| 8,788.3                    | 0.00                   | 0.00               | 8,610.0                    | 635.6             | -735.8            | 0.00                         | 0.00                        | 0.00                       | 0.00           | PBHL_NBU 1022-1 |

# APC

## Planning Report - Geographic

|                  |                         |                                     |                                      |
|------------------|-------------------------|-------------------------------------|--------------------------------------|
| <b>Database:</b> | apc_edmp                | <b>Local Co-ordinate Reference:</b> | Well P_NBU 1022-10M1DS               |
| <b>Company:</b>  | ROCKIES - PLANNING      | <b>TVD Reference:</b>               | WELL @ 5094.0ft (Original Well Elev) |
| <b>Project:</b>  | UTAH CENTRAL ZONE - 27  | <b>MD Reference:</b>                | WELL @ 5094.0ft (Original Well Elev) |
| <b>Site:</b>     | UINTAH_NBU 1022-10N PAD | <b>North Reference:</b>             | True                                 |
| <b>Well:</b>     | P_NBU 1022-10M1DS       | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Wellbore:</b> | P_NBU 1022-10M1DS       |                                     |                                      |
| <b>Design:</b>   | Plan #1 04-13-09 ZJRA6  |                                     |                                      |

| Planned Survey        |                 |             |                     |            |            |                   |                  |             |              |
|-----------------------|-----------------|-------------|---------------------|------------|------------|-------------------|------------------|-------------|--------------|
| Measured Depth (ft)   | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (ft) | Map Easting (ft) | Latitude    | Longitude    |
| 0.0                   | 0.00            | 0.00        | 0.0                 | 0.0        | 0.0        | 598,009.98        | 2,580,665.85     | 39.956732°N | 109.428371°W |
| 977.0                 | 0.00            | 0.00        | 977.0               | 0.0        | 0.0        | 598,009.98        | 2,580,665.85     | 39.956732°N | 109.428371°W |
| <b>Green River</b>    |                 |             |                     |            |            |                   |                  |             |              |
| 1,800.0               | 0.00            | 0.00        | 1,800.0             | 0.0        | 0.0        | 598,009.98        | 2,580,665.85     | 39.956732°N | 109.428371°W |
| <b>Surface Casing</b> |                 |             |                     |            |            |                   |                  |             |              |
| 1,950.0               | 0.00            | 0.00        | 1,950.0             | 0.0        | 0.0        | 598,009.98        | 2,580,665.85     | 39.956732°N | 109.428371°W |
| 3,450.0               | 30.00           | 310.82      | 3,382.4             | 250.9      | -290.4     | 598,254.08        | 2,580,369.66     | 39.957421°N | 109.429407°W |
| 3,603.6               | 30.00           | 310.82      | 3,515.4             | 301.1      | -348.6     | 598,302.91        | 2,580,310.41     | 39.957559°N | 109.429614°W |
| 4,273.6               | 19.95           | 310.82      | 4,122.0             | 485.8      | -562.4     | 598,482.61        | 2,580,092.38     | 39.958066°N | 109.430377°W |
| <b>Wasatch</b>        |                 |             |                     |            |            |                   |                  |             |              |
| 5,603.6               | 0.00            | 0.00        | 5,425.2             | 635.6      | -735.8     | 598,628.38        | 2,579,915.50     | 39.958477°N | 109.430996°W |
| 8,215.3               | 0.00            | 0.00        | 8,037.0             | 635.6      | -735.8     | 598,628.38        | 2,579,915.50     | 39.958477°N | 109.430996°W |
| <b>Mesa Verde</b>     |                 |             |                     |            |            |                   |                  |             |              |
| 8,788.3               | 0.00            | 0.00        | 8,610.0             | 635.6      | -735.8     | 598,628.38        | 2,579,915.50     | 39.958477°N | 109.430996°W |

| Targets                   |           |          |         |       |        |            |              |             |              |
|---------------------------|-----------|----------|---------|-------|--------|------------|--------------|-------------|--------------|
| Target Name               |           |          |         |       |        |            |              |             |              |
| - hit/miss target         | Dip Angle | Dip Dir. | TVD     | +N/-S | +E/-W  | Northing   | Easting      | Latitude    | Longitude    |
| - Shape                   | (°)       | (°)      | (ft)    | (ft)  | (ft)   | (ft)       | (ft)         |             |              |
| PBHL_NBU 1022-10M         | 0.00      | 0.00     | 8,610.0 | 635.6 | -735.8 | 598,628.38 | 2,579,915.50 | 39.958477°N | 109.430996°W |
| - plan hits target center |           |          |         |       |        |            |              |             |              |
| - Point                   |           |          |         |       |        |            |              |             |              |

| Casing Points       |                     |                |                     |                   |  |
|---------------------|---------------------|----------------|---------------------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name           | Casing Diameter (") | Hole Diameter (") |  |
| 1,800.0             | 1,800.0             | Surface Casing | 9-5/8               | 12-1/4            |  |

| Formations          |                     |             |           |         |                   |
|---------------------|---------------------|-------------|-----------|---------|-------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Name        | Lithology | Dip (°) | Dip Direction (°) |
| 977.0               | 977.0               | Green River |           | 0.00    |                   |
| 8,215.3             | 8,037.0             | Mesa Verde  |           | 0.00    |                   |
| 4,273.6             | 4,122.0             | Wasatch     |           | 0.00    |                   |

**NBU 1022-10M1DS**

Pad: NBU 1022-10N

Surface: 167' FSL 1,765' FWL (SE/4SW/4)

BHL: 800' FSL 1,030' FWL (SW/4SW/4)

Sec. 10 T10S R22E

Uintah, Utah

Mineral Lease: UTU 01196C

**ONSHORE ORDER NO. 1**

***DRILLING PROGRAM***

**1. – 2. Estimated Tops of Important Geologic Markers:**

**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

| <u>Formation</u> | <u>Depth</u> | <u>Resource</u> |
|------------------|--------------|-----------------|
| Uinta            | 0 – Surface  |                 |
| Green River      | 977'         |                 |
| Birds Nest       | 1,311'       | Water           |
| Mahogany         | 1,770'       | Water           |
| Wasatch          | 4,122'       | Gas             |
| Mesaverde        | 6,467'       | Gas             |
| MVU2             | 7,435'       | Gas             |
| MVL1             | 8,037'       | Gas             |
| TVD              | 8,610'       |                 |
| TD               | 8,788'       |                 |

**3. Pressure Control Equipment (Schematic Attached)**

*Please refer to the attached Drilling Program.*

**4. Proposed Casing & Cementing Program:**

*Please refer to the attached Drilling Program.*

**5. Drilling Fluids Program:**

*Please refer to the attached Drilling Program.*

**6. Evaluation Program:**

*Please refer to the attached Drilling Program.*

7. **Abnormal Conditions:**

Maximum anticipated bottomhole pressure calculated at 8,610' TVD, approximately equals 5,247 psi (calculated at 0.60 psi/foot).

Maximum anticipated surface pressure equals approximately 3,247 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

8. **Anticipated Starting Dates:**

*Drilling is planned to commence immediately upon approval of this application.*

9. **Variances:**

*Please refer to the attached Drilling Program.*

*Onshore Order #2 – Air Drilling Variance*

*Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2*

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

*This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.*

*The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.*

*More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.*

***Background***

*In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.*

*Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.*

*The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.*

*KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.*

***Variance for BOPE Requirements***

*The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.*

***Variance for Mud Material Requirements***

*Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.*

***Variance for Special Drilling Operation (surface equipment placement) Requirements***

*Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.*

*Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.*

*Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.*

*Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.*

#### ***Variance for FIT Requirements***

*KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). The air rig operation utilizes a 5M BOPE when drilling. This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.*

#### ***Conclusion***

*The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.*

#### **10. Other Information:**

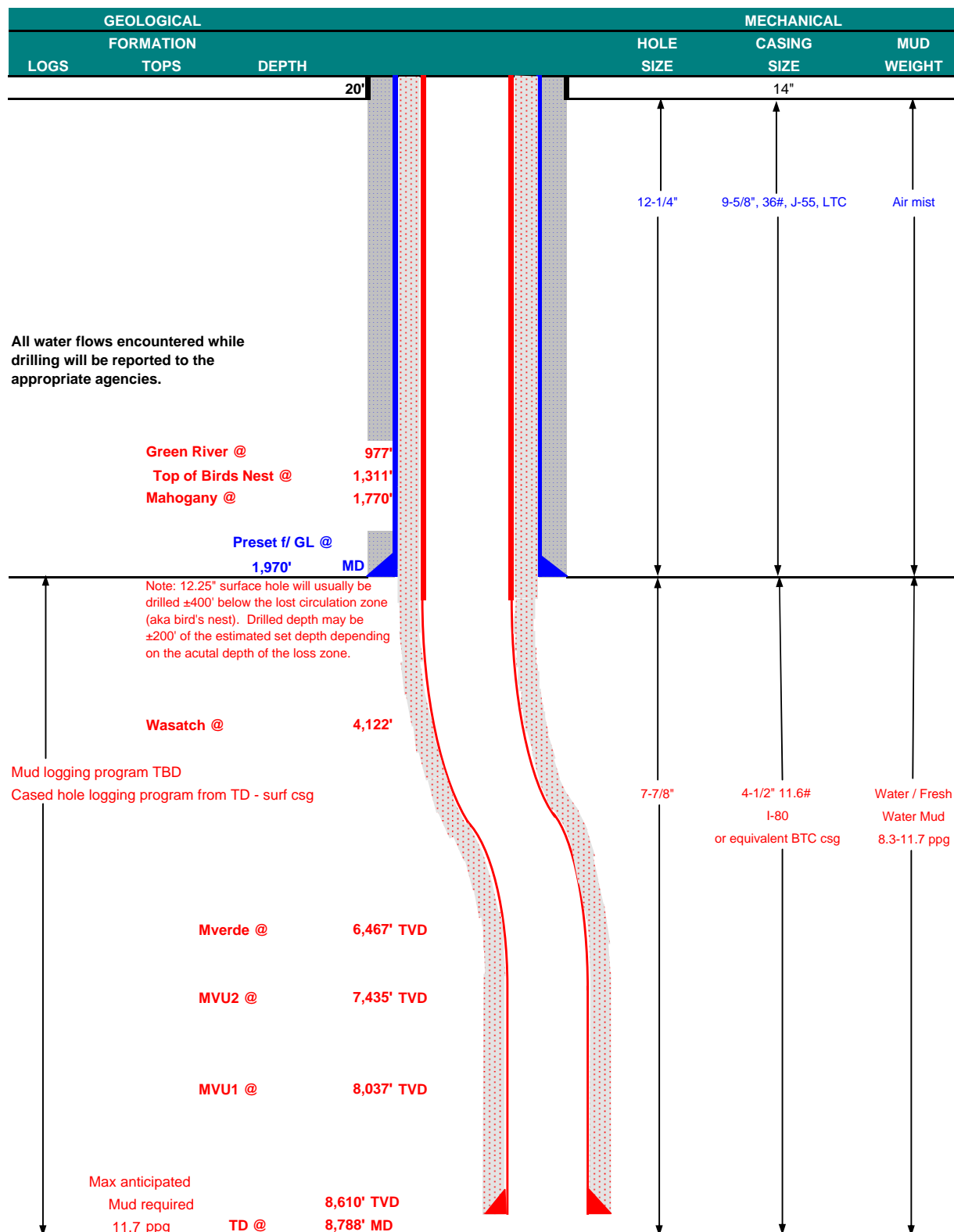
*Please refer to the attached Drilling Program.*





## KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

|                   |   |          |                        |        |        |       |                    |     |           |
|-------------------|---|----------|------------------------|--------|--------|-------|--------------------|-----|-----------|
| COMPANY NAME      | KERR-McGEE OIL & GAS ONSHORE LP   |          |                        |        |        | DATE  | August 12, 2009    |     |           |
| WELL NAME         | NBU 1022-10M1DS   |          |                        |        |        | TD    | 8,610'             | TVD | 8,788' MD |
| FIELD             | Natural Buttes  |          | COUNTY                 | Uintah | STATE  | Utah  | FINISHED ELEVATION |     | 5,094'    |
| SURFACE LOCATION  | SE/4 SW/4   | 167' FSL | 1,765' FWL             | Sec 10 | T 10S  | R 22E |                    |     |           |
|                   | Latitude: 39.956697   |          | Longitude: -109.429053 |        | NAD 83 |       |                    |     |           |
| BTM HOLE LOCATION | SW/4 SW/4   | 800' FSL | 1,030' FWL             | Sec 10 | T 10S  | R 22E |                    |     |           |
|                   | Latitude: 39.958442   |          | Longitude: -109.431678 |        | NAD 83 |       |                    |     |           |
| OBJECTIVE ZONE(S) | Wasatch/Mesaverde   |          |                        |        |        |       |                    |     |           |
| ADDITIONAL INFO   | Regulatory Agencies: BLM (Minerals), BLM (Surface), Tri-County Health Dept. |          |                        |        |        |       |                    |     |           |





## KERR-McGEE OIL & GAS ONSHORE LP

### DRILLING PROGRAM

#### CASING PROGRAM

|            | SIZE   | INTERVAL   | WT.   | GR.  | CPLG. | DESIGN FACTORS |          |         |
|------------|--------|------------|-------|------|-------|----------------|----------|---------|
|            |        |            |       |      |       | BURST          | COLLAPSE | TENSION |
| CONDUCTOR  | 14"    | 0-40'      |       |      |       | 3,520          | 2,020    | 453,000 |
| SURFACE    | 9-5/8" | 0 to 1,970 | 36.00 | J-55 | LTC   | 1.03           | 2.19     | 8.13    |
|            |        |            |       |      |       | 7,780          | 6,350    | 278,000 |
| PRODUCTION | 4-1/2" | 0 to 8,788 | 11.60 | I-80 | BTC   | 2.33           | 1.21     | 3.12    |

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 11.7 ppg)

0.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MASP 3,247 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

(Burst Assumptions: TD = 11.7 ppg)

0.6 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MABHP 5,247 psi**

#### CEMENT PROGRAM

|            |                      | FT. OF FILL   | DESCRIPTION                            | SACKS   | EXCESS | WEIGHT | YIELD |
|------------|----------------------|---|--|---------|--------|--------|-------|
| SURFACE    | LEAD                 | 500'  | Premium cmt + 2% CaCl                  | 215     | 60%    | 15.60  | 1.18  |
|            |                      |   | + 0.25 pps flocele                     |         |        |        |       |
| Option 1   | TOP OUT CMT (6 jobs) | 1,200'  | 20 gals sodium silicate + Premium cmt  | 380     | 0%     | 15.60  | 1.18  |
|            |                      |   | + 2% CaCl + 0.25 pps flocele           |         |        |        |       |
|            |                      |   | Premium cmt + 2% CaCl                  |         |        |        |       |
| SURFACE    |                      | <b>NOTE: If well will circulate water to surface, option 2 will be utilized</b> |  |         |        |        |       |
| Option 2   | LEAD                 | 1,470'  | 65/35 Poz + 6% Gel + 10 pps gilsonite  | 350     | 35%    | 12.60  | 1.81  |
|            |                      |   | + 0.25 pps Flocele + 3% salt BWOW      |         |        |        |       |
|            | TAIL                 | 500'  | Premium cmt + 2% CaCl                  | 180     | 35%    | 15.60  | 1.18  |
|            |                      |   | + 0.25 pps flocele                     |         |        |        |       |
|            | TOP OUT CMT          | as required   | Premium cmt + 2% CaCl                  | as req. |        | 15.60  | 1.18  |
|            |                      |   |  |         |        |        |       |
| PRODUCTION | LEAD                 | 3,618'  | Premium Lite II + 3% KCl + 0.25 pps    | 340     | 40%    | 11.00  | 3.38  |
|            |                      |   | celloflake + 5 pps gilsonite + 10% gel |         |        |        |       |
|            |                      |   | + 0.5% extender                        |         |        |        |       |
|            | TAIL                 | 5,170'  | 50/50 Poz/G + 10% salt + 2% gel        | 1,270   | 40%    | 14.30  | 1.31  |
|            |                      |   | + 0.1% R-3                             |         |        |        |       |

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

#### FLOAT EQUIPMENT & CENTRALIZERS

|            |  |
|------------|--|
| SURFACE    | Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe |
|            |  |
| PRODUCTION | Float shoe, 1 jt, float collar. No centralizers will be used.  |
|            |  |

#### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

John Huycke / Emile Goodwin

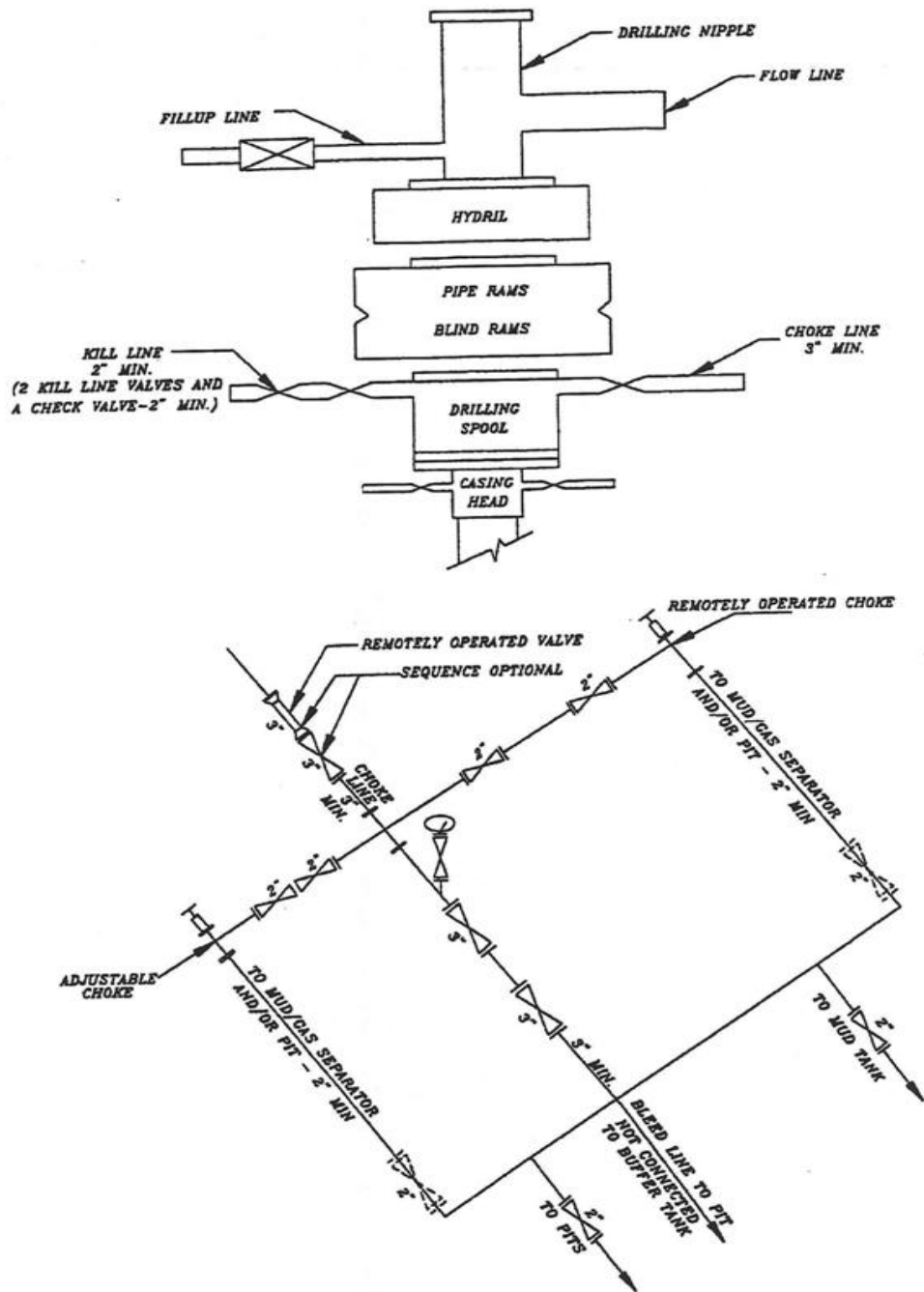
DATE:

DRILLING SUPERINTENDENT:

John Merkel / Lovel Young

DATE:

EXHIBIT A  
NBU 1022-10M1DS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

# WELL PAD INTERFERENCE PLAT

## DIRECTIONAL PAD – NBU 249

BASIS OF BEARINGS IS THE EAST LINE OF THE SE 1/4 OF SECTION 10, T10S, R22E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°06'14"W.

### SURFACE POSITION FOOTAGES:

NBU 1022-10M1DS  
167' FSL, 1765' FWL

NBU 1022-10M1AS  
173' FSL, 1784' FWL

NBU 1022-1002CS  
180' FSL, 1803' FWL

NBU 1022-1003BS  
187' FSL, 1822' FWL

NBU 249 (Existing Well Head)  
207' FSL, 1878' FWL

Az=57.17917°  
N57°10'45"E – 1350.17'  
(To Bottom Hole)

Az=79.09222°  
N79°05'32"E – 1137.24'  
(To Bottom Hole)

Az=326.41528°  
N33°35'05"W – 1367.21'  
(To Bottom Hole)

Az=310.79500°  
N49°12'18"W – 972.66'  
(To Bottom Hole)

Az=250.57611°  
S70°34'34"W – 60.00'

NBU 1022-10M1DS  
Az. to exist. W.H.=70.57611° 120.00'

NBU 1022-10M1AS  
Az. to exist. W.H.=70.57611° 100.00'

NBU 1022-1002CS  
Az. to exist. W.H.=70.57611° 80.00'

NBU 1022-1003BS  
Az. to exist. W.H.=70.57611° 60.00'

EXISTING WELL: NBU 249

### BOTTOM HOLE FOOTAGES

NBU 1022-10M1DS  
800' FSL, 1030' FWL

NBU 1022-10M1AS  
1310' FSL, 1030' FWL

NBU 1022-1002CS  
915' FSL, 2310' FEL

NBU 1022-1003BS  
405' FSL, 2310' FEL

### RELATIVE COORDINATES

From Surface Position to Bottom Hole

| WELL        | NORTH | EAST  |
|-------------|-------|-------|
| 1022-10M1DS | 635'  | -736' |
| 1022-10M1AS | 1139' | -756' |
| 1022-1002CS | 732'  | 1135' |
| 1022-1003BS | 215'  | 1117' |

### LATITUDE & LONGITUDE

Surface Position – (NAD 83)

| WELL                     | N. LATITUDE   | W. LONGITUDE   |
|--------------------------|---------------|----------------|
| 1022-10M1DS              | 39°57'24.111" | 109°25'44.590" |
|                          | 39.956697°    | 109.429053°    |
| 1022-10M1AS              | 39°57'24.175" | 109°25'44.348" |
|                          | 39.956715°    | 109.428986°    |
| 1022-1002CS              | 39°57'24.242" | 109°25'44.106" |
|                          | 39.956734°    | 109.428918°    |
| 1022-1003BS              | 39°57'24.308" | 109°25'43.863" |
|                          | 39.956752°    | 109.428851°    |
| EXISTING WELL<br>NBU 249 | 39°57'24.505" | 109°25'43.136" |
|                          | 39.956807°    | 109.428649°    |

### LATITUDE & LONGITUDE

Surface Position – (NAD 27)

| WELL                     | N. LATITUDE   | W. LONGITUDE   |
|--------------------------|---------------|----------------|
| 1022-10M1DS              | 39°57'24.234" | 109°25'42.134" |
|                          | 39.956732°    | 109.428371°    |
| 1022-10M1AS              | 39°57'24.299" | 109°25'41.892" |
|                          | 39.956750°    | 109.428303°    |
| 1022-1002CS              | 39°57'24.366" | 109°25'41.650" |
|                          | 39.956768°    | 109.428236°    |
| 1022-1003BS              | 39°57'24.431" | 109°25'41.407" |
|                          | 39.956786°    | 109.428169°    |
| EXISTING WELL<br>NBU 249 | 39°57'24.628" | 109°25'40.681" |
|                          | 39.956841°    | 109.427967°    |

### LATITUDE & LONGITUDE

Bottom Hole – (NAD 83)

| WELL        | N. LATITUDE   | W. LONGITUDE   |
|-------------|---------------|----------------|
| 1022-10M1DS | 39°57'30.392" | 109°25'54.041" |
|             | 39.958442°    | 109.431678°    |
| 1022-10M1AS | 39°57'35.431" | 109°25'54.052" |
|             | 39.959842°    | 109.431681°    |
| 1022-1002CS | 39°57'31.468" | 109°25'29.535" |
|             | 39.958741°    | 109.424871°    |
| 1022-1003BS | 39°57'26.429" | 109°25'29.526" |
|             | 39.957341°    | 109.424868°    |

### LATITUDE & LONGITUDE

Bottom Hole – (NAD 27)

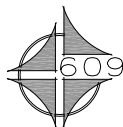
| WELL        | N. LATITUDE   | W. LONGITUDE   |
|-------------|---------------|----------------|
| 1022-10M1DS | 39°57'30.516" | 109°25'51.584" |
|             | 39.958477°    | 109.430996°    |
| 1022-10M1AS | 39°57'35.555" | 109°25'51.596" |
|             | 39.959876°    | 109.430999°    |
| 1022-1002CS | 39°57'31.592" | 109°25'27.079" |
|             | 39.958775°    | 109.424189°    |
| 1022-1003BS | 39°57'26.553" | 109°25'27.070" |
|             | 39.957376°    | 109.424186°    |

Kerr-McGee

Oil & Gas Onshore, LP

1099 18th Street – Denver, Colorado 80202

NBU 1022-10M1DS, NBU 1022-10M1AS,  
NBU 1022-1002CS & NBU 1022-1003BS  
LOCATED IN SECTION 10, T10S, R22E,  
S.L.B.&M. UTAH COUNTY, UTAH.



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

DATE SURVEYED: 10-16-08

DATE DRAWN: 10-21-08

SURVEYED BY: M.S.B.

DRAWN BY: E.M.S.

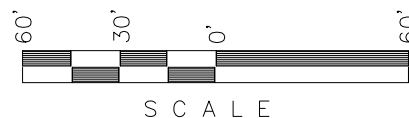
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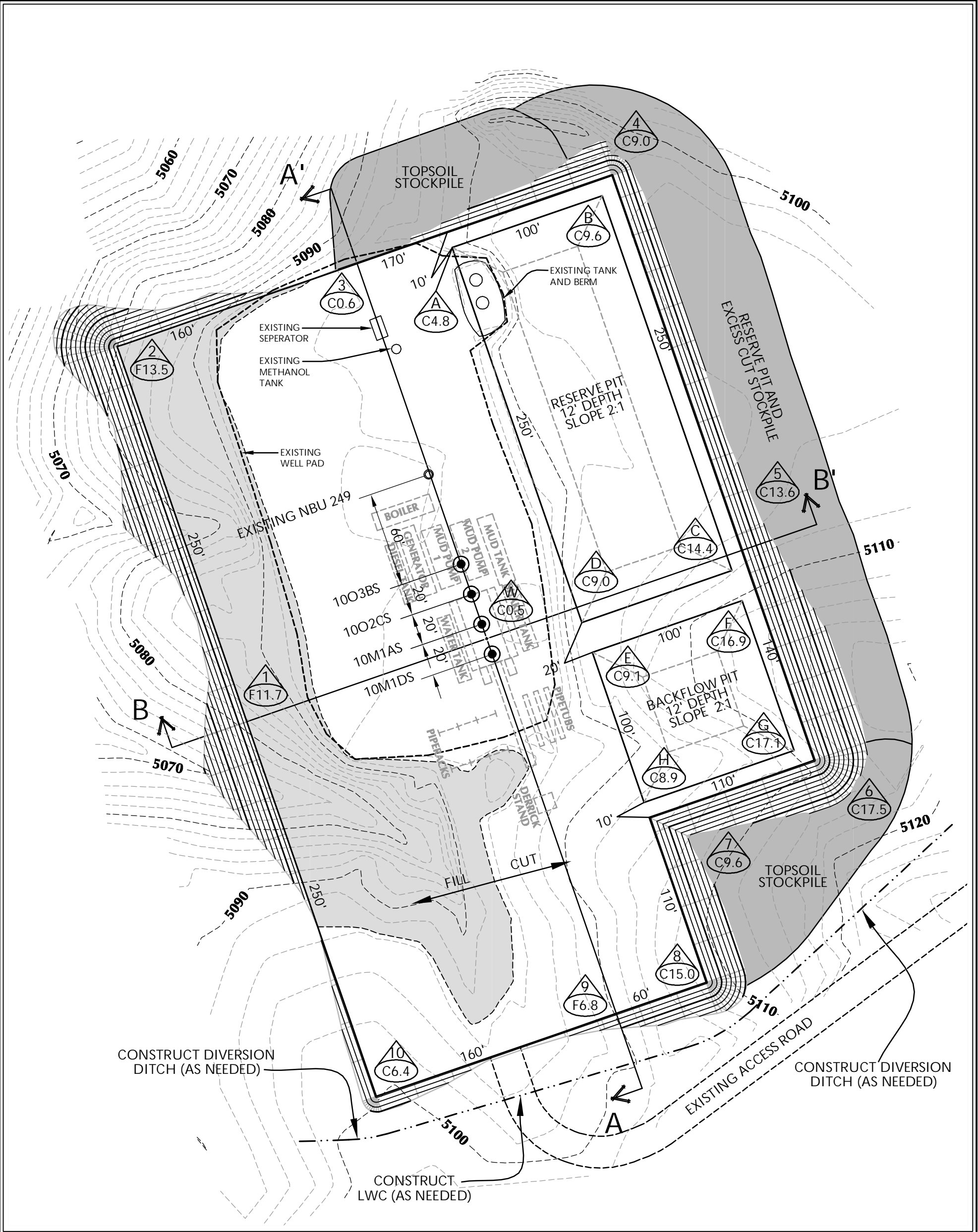
Timberline

Engineering & Land Surveying, Inc.  
209 NORTH 300 WEST VERNAL, UTAH 84078

(435) 789-1365

SHEET  
5  
OF 13





WELL PAD NBV 249 QUANTITIES

EXISTING GRADE @ CENTER OF WELL PAD = 5,094.0'  
FINISHED GRADE ELEVATION = 5,093.5'  
CUT SLOPES = 1.5:1  
FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 25,900 C.Y.  
TOTAL FILL FOR WELL PAD = 10,567 C.Y.  
TOPSOIL @ 6" DEPTH = 2,460 C.Y.  
EXCESS MATERIAL = 15,333 C.Y.  
TOTAL DISTURBANCE = 4.18 ACRES  
SHRINKAGE FACTOR = 1.10  
SWELL FACTOR = 1.00  
RESERVE PIT CAPACITY (2' OF FREEBOARD)  
+/- 28,730 BARRELS  
RESERVE PIT VOLUME  
+/- 7,720 CY  
BACKFLOW PIT CAPACITY (2' OF FREEBOARD)  
+/- 9,490 BARRELS  
BACKFLOW PIT VOLUME  
+/- 2,660 CY

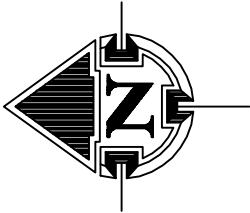
WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

|               |               |             |
|---------------|---------------|-------------|
| Scale: 1"=60' | Date: 2/24/09 | SHEET NO: 6 |
| REVISED:      | GH 4/7/09     | 6 OF 13     |

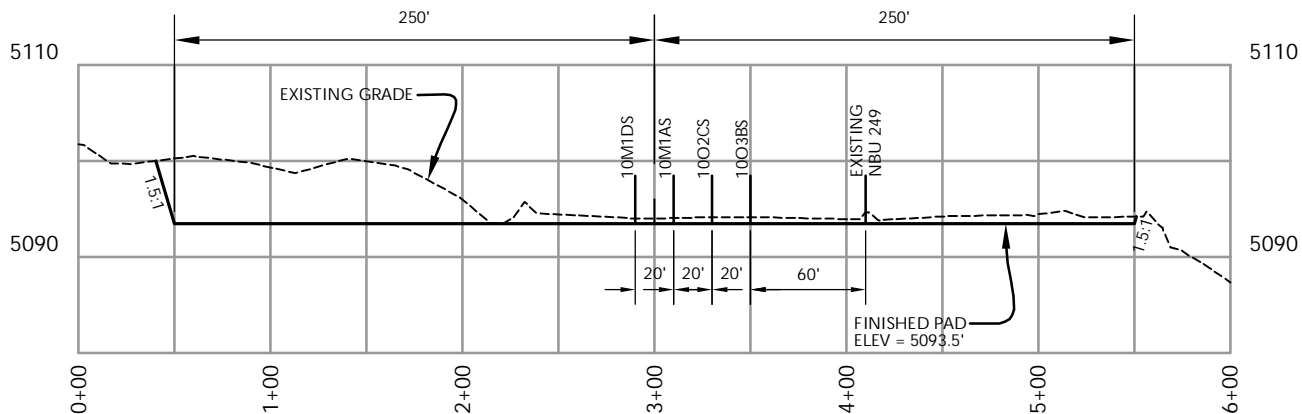


HORIZONTAL 0 30 60 1" = 60'  
2' CONTOURS

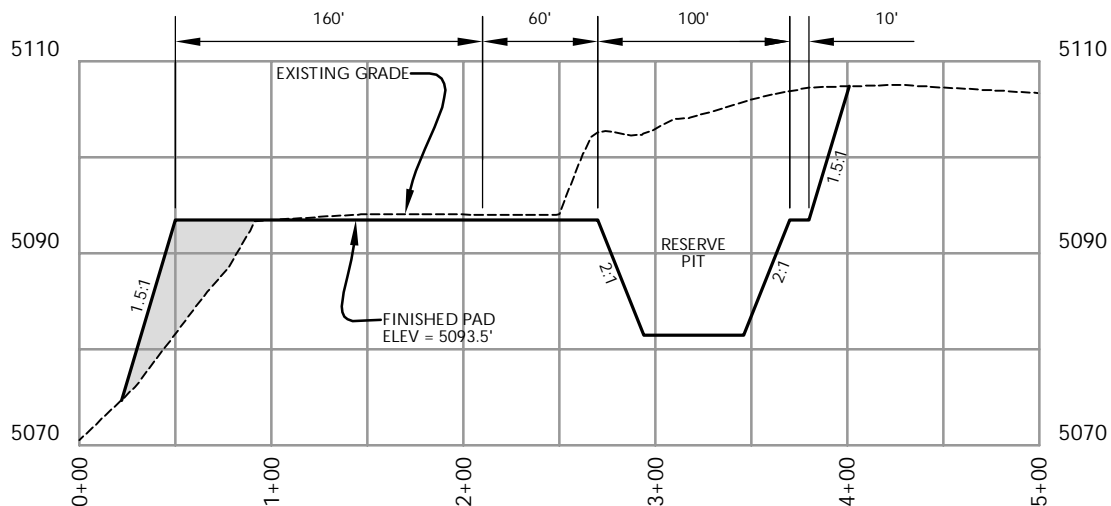
**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
38 WEST 100 NORTH VERNAL, UTAH 84078

KERR-MCGEE OIL & GAS  
ONSHORE L.P.  
1099 18th Street - Denver, Colorado 80202

WELL PAD - LOCATION LAYOUT  
NBV 1022-10M1DS, NBV 1022-10M1AS,  
NBV 1022-10O2CS, NBV 1022-10O3BS  
LOCATED IN SECTION 10, T.10S., R.22E.  
S.L.B.&M., UINTAH COUNTY, UTAH



**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

NOTE: CROSS SECTION B-B' DEPICTS  
MAXIMUM RESERVE PIT DEPTH.

**KERR-MCGEE OIL & GAS  
ONSHORE L.P.**  
1099 18th Street - Denver, Colorado 80202

**WELL PAD - CROSS SECTIONS**  
NBU 1022-10M1DS, NBU 1022-10M1AS,  
NBU 1022-10O2CS, NBU 1022-10O3BS  
LOCATED IN SECTION 10, T.10S., R.22E.  
S.L.B.&M., UINTAH COUNTY, UTAH



**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

Scale: 1"=100'

Date: 2/24/09

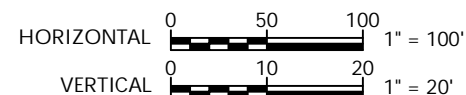
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BY  
DATE

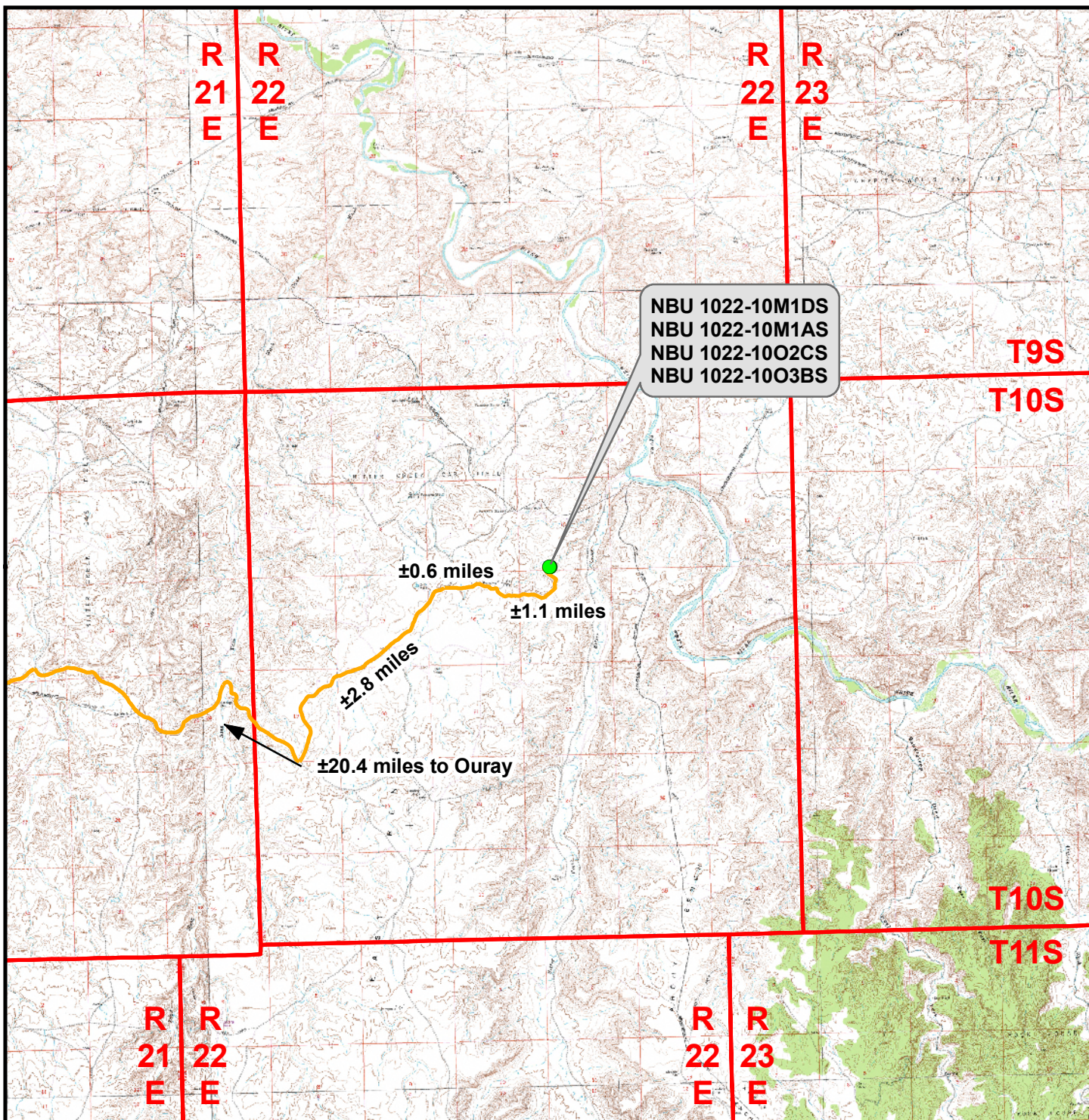
7

7 OF 13



**Timberline** (435) 789-1365  
**Engineering & Land Surveying, Inc.**  
38 WEST 100 NORTH VERNAL, UTAH 84078





### Legend

- Proposed Well Location
- Access Route - Proposed

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**NBU 1022-10M1DS, NBU 1022-10M1AS,  
NBU 1022-10O2CS & NBU 1022-10O3BS  
Topo A  
Located In Section 10, T10S, R22E  
S.L.B.&M., Uintah County, Utah**

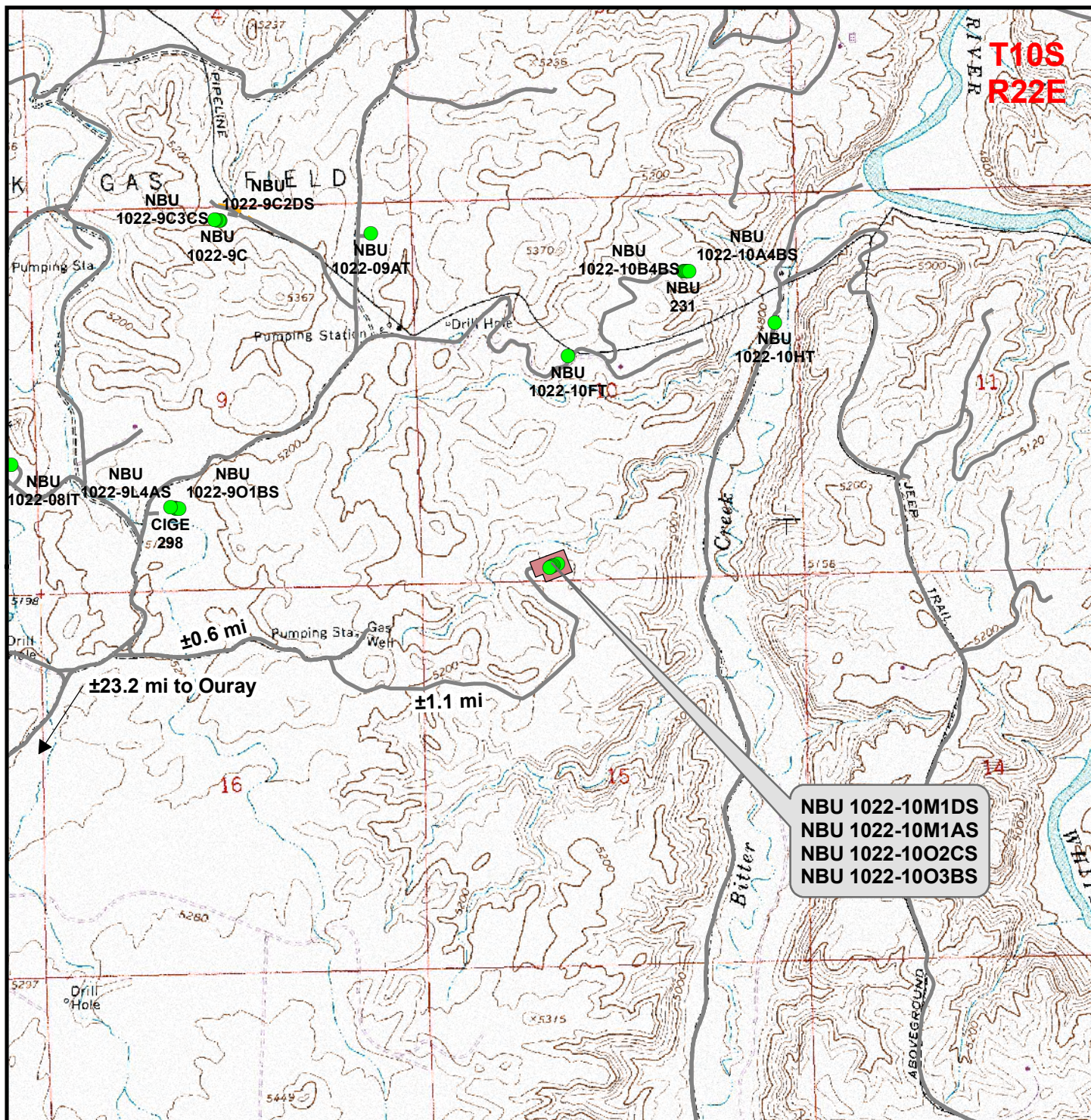


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|------------------|--------------------|
| Scale: 1:100,000 | NAD83 USP Central  |
| Drawn: JELO      | Date: 7 April 2009 |
| Revised: CPS     | Date: 6 May 2009   |

Sheet No:

**9** 9 of 13





### Legend

- Well - Proposed
- Well Pad
- Road - Proposed
- Road - Existing

Total Proposed Road Length: ±0ft

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**NBU 1022-10M1DS, NBU 1022-10M1AS,  
NBU 1022-10O2CS & NBU 1022-10O3BS  
Topo B  
Located In Section 10, T10S, R22E  
S.L.B.&M., Uintah County, Utah**

**609**  
**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182

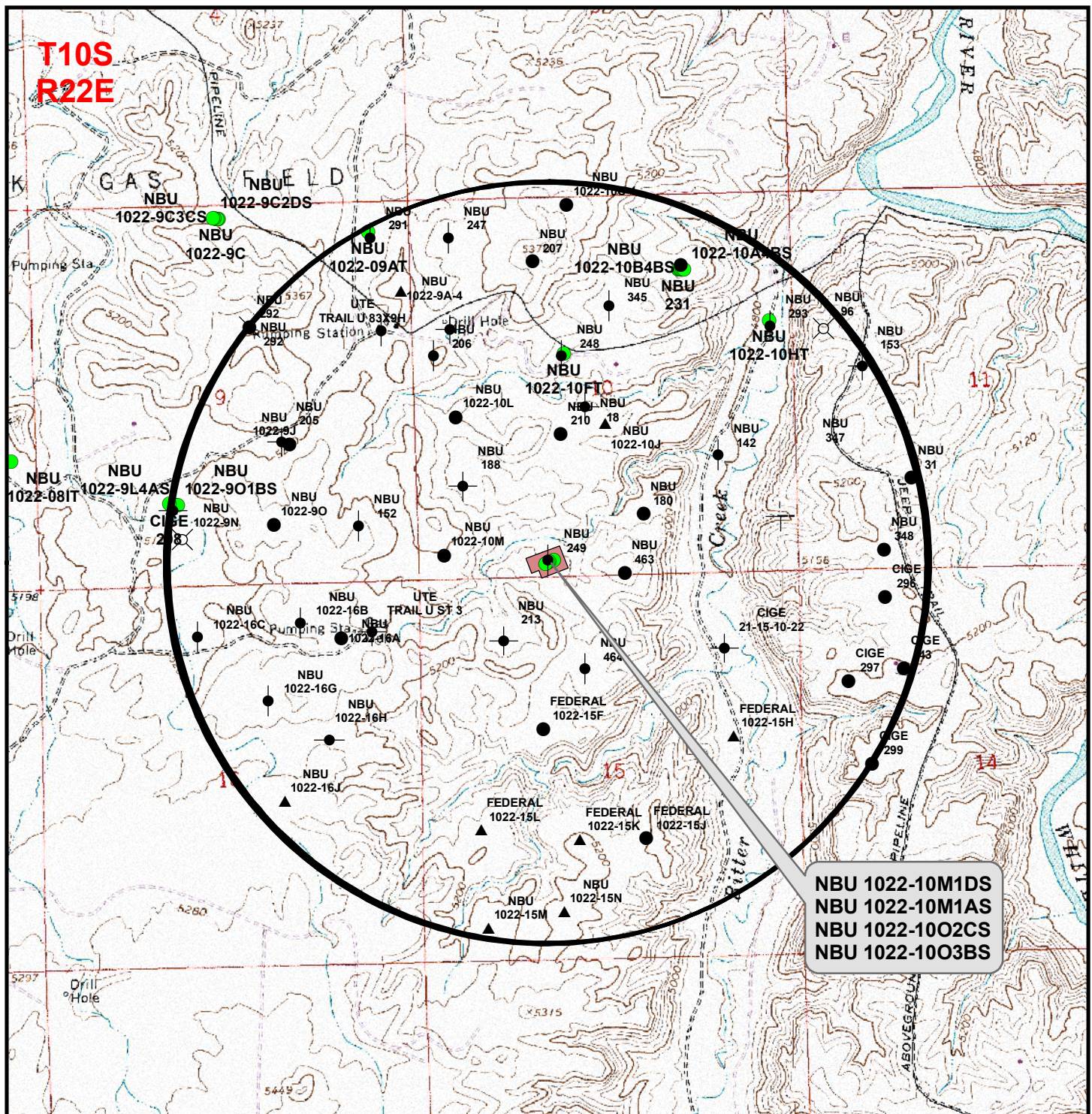


|                     |                    |
|---------------------|--------------------|
| Scale: 1" = 2,000ft | NAD83 USP Central  |
| Drawn: JELO         | Date: 7 April 2009 |
| Revised: CPS        | Date: 6 May 2009   |

Sheet No:











**10** 10 of 13





### Legend

Well locations derived from State of Utah, Dept. of Natural Resources, Division of Oil, Gas and Mining

-  Well - Proposed   
  Well - 1 Mile Radius   
  Producing   
  Location Abandoned   
  Shut-In  
 Well Pad   
  Approved permit (APD); not yet spudded   
  Temporarily-Abandoned  
 Spudded (Drilling commenced: Not yet comple   
  Plugged and Abandoned

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

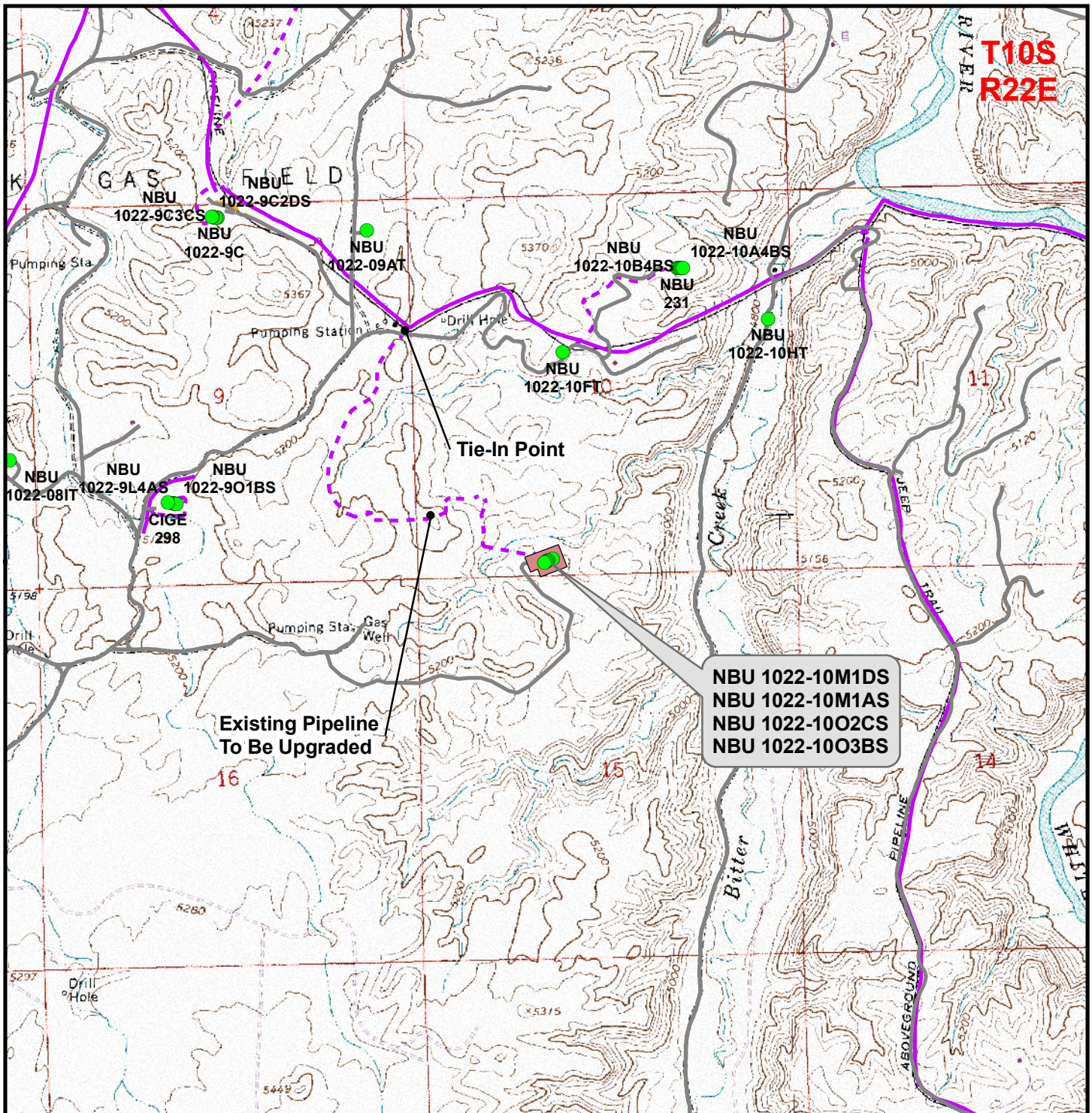
**NBU 1022-10M1DS, NBU 1022-10M1AS,  
NBU 1022-10O2CS & NBU 1022-10O3BS**  
**Topo C**  
**Located In Section 10, T10S, R22E**  
**S.L.B.&M., Uintah County, Utah**



|                     |                    |
|---------------------|--------------------|
| Scale: 1" = 2,000ft | NAD83 USP Central  |
| Drawn: JELO         | Date: 7 April 2009 |
| Revised: CPS        | Date: 6 May 2009   |

Sheet No:  
**11** 11 of 13





### Legend

- Well - Proposed     Well Pad    --- Road - Proposed    --- Pipeline - Proposed
- Road - Existing    --- Pipeline - Existing

Proposed Pipeline Length From Tie-In Point To Edge Of Pad: ±6,600ft  
Proposed Pipeline Length Around Pad: ±660ft

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**NBU 1022-10M1DS, NBU 1022-10M1AS,  
NBU 1022-10O2CS & NBU 1022-10O3BS  
Topo D  
Located In Section 10, T10S, R22E  
S.L.B.&M., Uintah County, Utah**

**609**  
**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182



|                     |                    |
|---------------------|--------------------|
| Scale: 1" = 2,000ft | NAD83 USP Central  |
| Drawn: JELo         | Date: 7 April 2009 |
| Revised: CPS        | Date: 6 May 2009   |

Sheet No:  
**12** 12 of 13



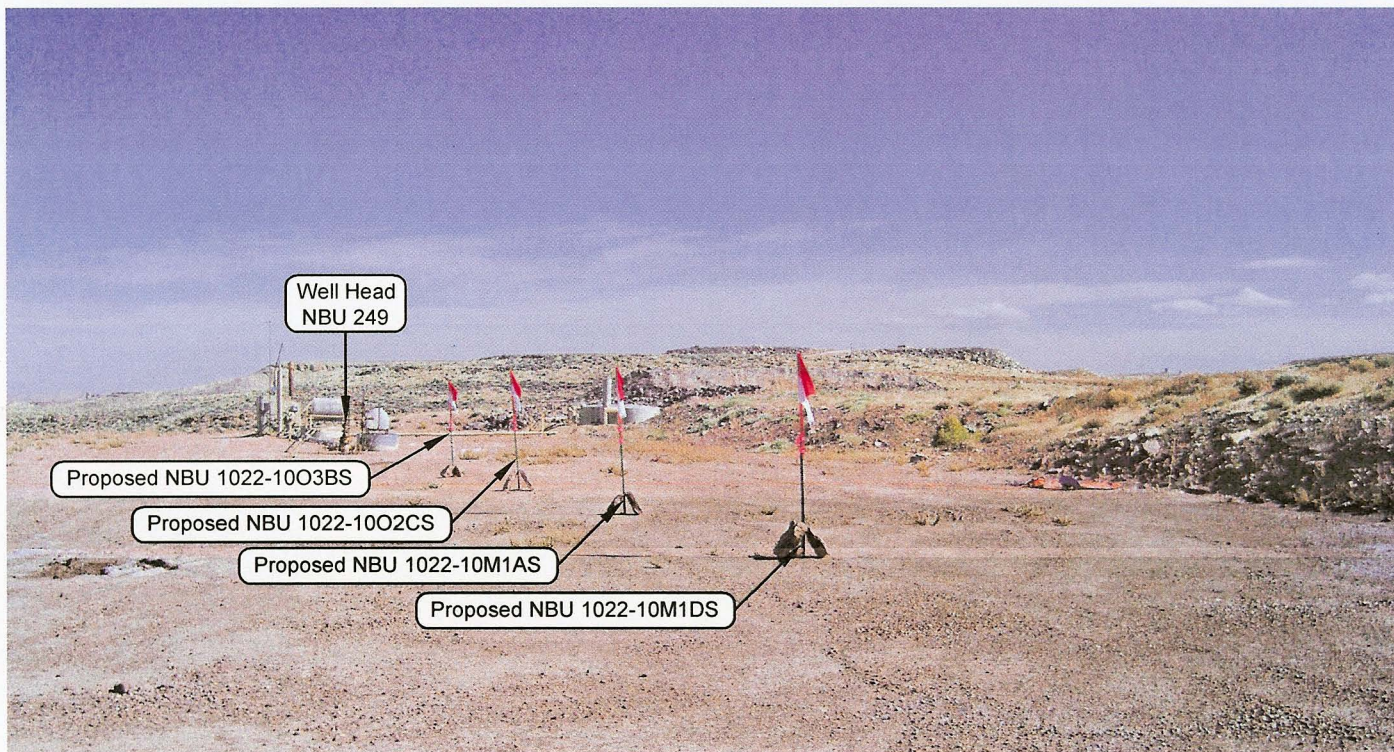


PHOTO VIEW: FROM LOCATION STAKES TO EXISTING WELL HEAD

CAMERA ANGLE: EASTERLY

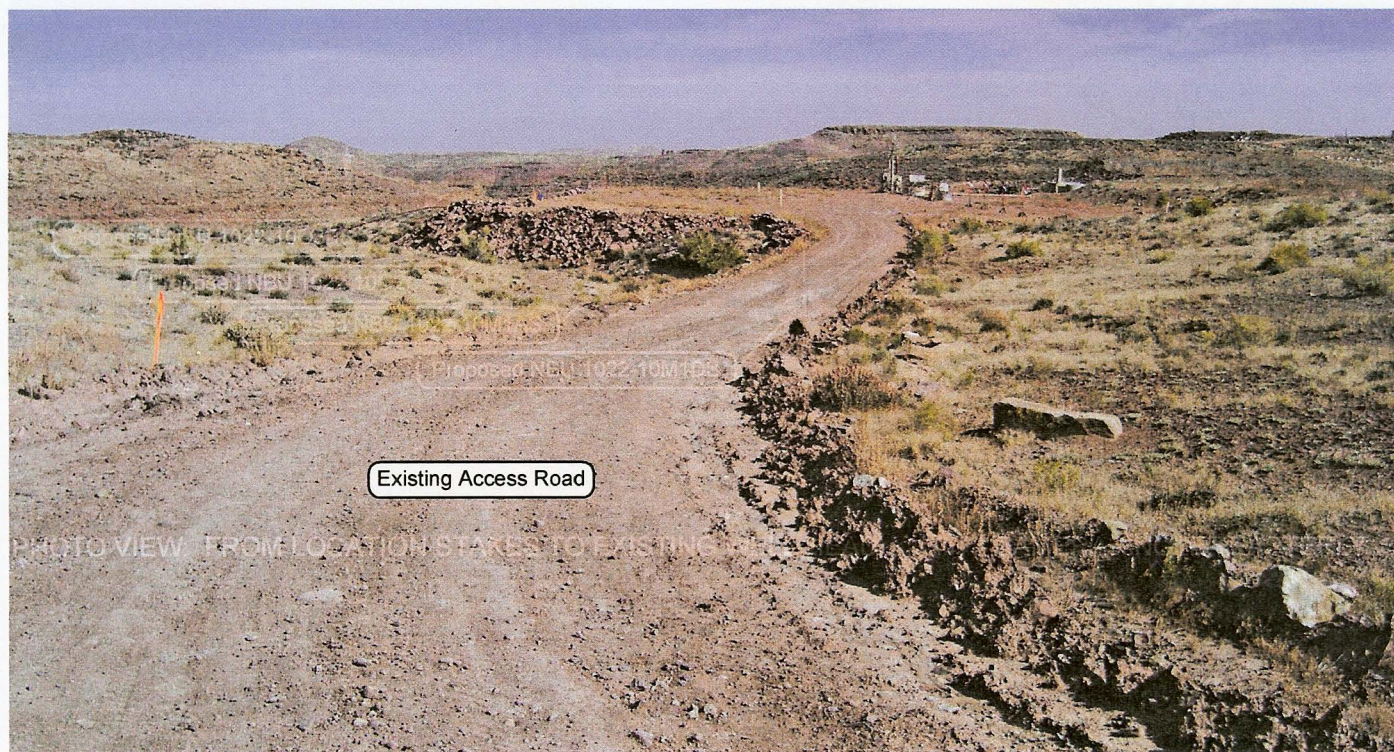


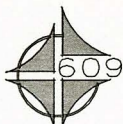
PHOTO VIEW: FROM LOCATION STAKES TO EXISTING WELL HEAD

PHOTO VIEW: FROM EXISTING ROAD TO LOCATION STAKES

CAMERA ANGLE: EASTERLY

**Kerr-McGee**  
**Oil & Gas Onshore, LP**  
 1099 18th Street - Denver, Colorado 80202

NBU 1022-10M1DS, NBU 1022-10M1AS,  
 NBU 1022-1002CS & NBU 1022-1003BS  
 LOCATED IN SECTION 10, T10S, R22E,  
 S.L.B.&M. UINTAH COUNTY, UTAH.



CONSULTING, LLC  
 371 Coffeen Avenue  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

**LOCATION PHOTOS**

TAKEN BY: M.S.B.

DRAWN BY: E.M.S.

DATE TAKEN: 10-16-08

DATE DRAWN: 10-21-08

REVISED: 02-07-09

**Timberline** (435) 789-1365  
 Engineering & Land Surveying, Inc.  
 38 WEST 100 NORTH VERNAL, UTAH 84078

**SHEET**  
**8**  
**OF 13**



**Kerr-McGee Oil & Gas Onshore, LP**  
**NBU 1022-10M1DS, NBU 1022-10M1AS, NBU 1022-10O2CS & NBU 1022-10O3BS**  
**Section 10, T10S, R22E, S.L.B.&M.**

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 11.2 MILES TO THE INTERSECTION OF THE GLEN BENCH ROAD (COUNTY B ROAD 3260). EXIT LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY DIRECTION ALONG THE GLEN BENCH ROAD APPROXIMATELY 5.2 MILES TO THE INTERSECTION OF THE BITTER CREEK ROAD (COUNTY B ROAD 4120). EXIT RIGHT AND PROCEED IN A SOUTHEASTERLY DIRECTION ALONG THE BITTER CREEK ROAD APPROXIMATELY 4.0 MILES TO A CLASS D COUNTY ROAD RUNNING NORTHEASTERLY. EXIT LEFT AND PROCEED IN A NORTHEASTERLY DIRECTION ALONG THE CLASS D COUNTY ROAD APPROXIMATELY 2.8 MILES TO A SECOND CLASS D COUNTY ROAD RUNNING EASTERLY. EXIT RIGHT AND PROCEED IN AN EASTERLY DIRECTION ALONG THE SECOND CLASS D COUNTY ROAD APPROXIMATELY 0.6 MILES TO A SERVICE ROAD RUNNING SOUTHEASTERLY. EXIT RIGHT AND PROCEED IN A SOUTHEASTERLY, THEN NORTHERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 1.1 MILES TO THE EXISTING WELL PAD.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 55.6 MILES IN A SOUTHERLY DIRECTION.

**NBU 1022-10M1AS**

Surface: 173' FSL 1,784' FWL (SE/4SW/4)  
BHL: 1,310' FSL 1,030' FWL (SW/4SW/4)  
Mineral Lease: UTU 01196C

**NBU 1022-10M1DS**

Surface: 167' FSL 1,765' FWL (SE/4SW/4)  
BHL: 800' FSL 1,030' FWL (SW/4SW/4)  
Mineral Lease: UTU 01196C

**NBU 1022-10O2CS**

Surface: 180' FSL 1,803' FWL (SE/4SW/4)  
BHL: 915' FSL 2,310' FEL (SW/4SE/4)  
Mineral Lease: UTU 025187

**NBU 1022-10O3BS**

Surface: 187' FSL 1,822' FWL (SE/4SW/4)  
BHL: 405' FSL 2,310' FEL (SW/4SE/4)  
Mineral Lease: UTU 025187

Pad: NBU 1022-10N  
Sec. 10 T10S R22E

Uintah, Utah

**ONSHORE ORDER NO. 1**

***MULTI-POINT SURFACE USE & OPERATIONS PLAN  
SUBMITTED WITH SITE-SPECIFIC INFORMATION***

This Application for Permit to Drill (APD) is filed under the Notice of Staking (NOS) process as stated in Onshore Order No. 1 (OSO #1) and supporting Bureau of Land Management (BLM) documents. An NOS was submitted on March 12, 2009 showing the surface locations in SE/4 SW/4 of Section 10 T10S R22E.

This Surface Use Plan of Operations (SUPO) or 13-point plan provides the site-specific information for the above-referenced wells. This information is to be incorporated by reference into the Master Development Plan (MDP) for Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee). The MDP is available upon request from the BLM-Vernal Field Office.

An on-site meeting was held on March 31, 2009. Present were:

- Verlyn Pindell, Dave Gordon – BLM;
- Kolby Kay – 609 Consulting, LLC
- Tony Kazeck, Raleen White, Sheila Upchego, Grizz Oleen, Hal Blanchard, Charles Chase and Jeff Samuels – Kerr-McGee.

**Directional Drilling:**

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

**A. Existing Roads:**

- A) Refer to Topo Map A for directions to the location.
- B) Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

**B. Planned Access Roads:**

*See MDP for additional details on road construction.*

No new access road is proposed. Please refer to the attached Topo Map B. No pipelines will be crossed with the new construction.

*Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site and are typically shown on the attached Exhibits and Topo maps.*

**C. Location of Existing Wells Within a 1-Mile Radius:**

Please refer to Topo Map C.

**D. Location of Existing and Proposed Facilities:**

*See MDP for additional details on Existing and Proposed Facilities.*

This pad will expand the existing pad for the NBU 249, which is a shut-in well according to Utah Division of Oil, Gas and Mining (UDOGM) records.

*The following guidelines will apply if the well is productive.*

**Approximately  $\pm 7,260'$  ( $\pm 1.4$  miles) of pipeline is proposed. The existing pipeline, as shown on Topo D, will be upgraded to accommodate anticipated production from the proposed wells. The upgraded pipeline will follow the same route as the existing pipeline.** Pipeline segments will be welded or zaplocked together on disturbed areas in or near the location, whenever possible, and dragged into place.

Per the onsite meeting, a Stream Alteration permit was requested and will be provided by Kerr-McGee.

**E. Location and Type of Water Supply:**

*See MDP for additional details on Location and Type of Water Supply.*

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

**F. Source of Construction Materials:**

*See MDP for additional details on Source of Construction Materials.*

**G. Methods of Handling Waste Materials:**

*See MDP for additional details on Methods of Handling Waste Materials.*

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E

NBU #159 in Sec. 35 T9S R21E

Ace Oilfield in Sec. 2 T6S R20E

MC&MC in Sec. 12 T6S R19E

Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

**H. Ancillary Facilities:**

*See MDP for additional details on Ancillary Facilities.*

None are anticipated.

**I. Well Site Layout: (See Location Layout Diagram)**

*See MDP for additional details on Well Site Layout.*

All pits will be fenced according to the following minimum standards:

- Net wire (39-inch) will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.
- Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
- Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.
- All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

**J. Plans for Reclamation of the Surface:**

*See MDP for additional details on Plans for Reclamation of the Surface.*

**K. Surface/Mineral Ownership:**

United States of America  
Bureau of Land Management  
170 South 500 East  
Vernal, UT 84078  
(435)781-4400

**L. Other Information:**

*See MDP for additional details on Other Information.*



**M. Lessee's or Operators' Representative & Certification:**

Kathy Schneebeck Dulnoan  
Regulatory Analyst  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6007

Tommy Thompson  
General Manager, Drilling  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6724


Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

  
Kathy Schneebeck Dulnoan

August 13, 2009  
Date



## Kerr-McGee Oil & Gas Onshore LP

1099 18th Street, Suite 1800  
Denver, CO 80202-1918  
P.O. Box 173779  
Denver, CO 80217-3779  
720-929-6000

May 5, 2009

Mrs. Diana Mason  
Division of Oil, Gas and Mining  
P.O. Box 145801  
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11  
NBU 1022-10M1DS  
T10S-R22E  
Section 10: SWSW  
Surface: 167' FSL, 1765' FWL  
Bottom Hole: 800' FSL, 1030' FWL  
Uintah County, Utah

Dear Mrs. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

- Kerr-McGee's NBU 1022-10M1DS located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

A handwritten signature in blue ink, appearing to read 'Jason K. Rayburn', is written over the typed name and title.

Jason K. Rayburn  
Landman

CLASS I REVIEW OF KERR-MCGEE OIL AND GAS  
ONSHORE LP'S 55 PROPOSED WELL LOCATIONS  
IN TOWNSHIP 10S, RANGE 22E,  
SECTIONS 4, 7, 8, 9, 10, 18 AND 20,  
UINTAH COUNTY, UTAH

By:

Patricia Stavish

Prepared For:  
Bureau of Land Management  
Vernal Field Office  
and  
State of Utah  
School & Institutional Trust Lands Administration

Prepared Under Contract With:

Kerr-McGee Oil and Gas Onshore LP  
1368 South 1200 East  
Vernal, Utah 84078

Prepared By:

Montgomery Archaeological Consultants, Inc.  
P.O. Box 219  
Moab, Utah 84532

MOAC Report No. 08-321

February 20, 2009

United States Department of Interior (FLPMA)  
Permit No. 08-UT-60122

Public Lands Policy Coordination Office  
Archaeological Survey Permit No. 117



**IPC #09-98**

# **Paleontological Reconnaissance Survey Report**

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**Survey of Kerr McGee's Proposed Pipeline Re-Routes for  
"NBU #1022-10M1DS, M1AS, O2CS, & O3BS"  
(Sec. 9 & 10, T 10 S, R 22 E)**

Archy Bench  
Topographic Quadrangle  
Uintah County, Utah

June 4, 2009

Prepared by Stephen D. Sandau  
Paleontologist for  
Intermountain Paleo-Consulting  
P. O. Box 1125  
Vernal, Utah 84078

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## SPECIAL STATUS PLANT REPORT

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**Operator:** Anadarko Petroleum Company

**Wells:** NBU 1022-10M1DS  
NBU 1022-10M1AS  
NBU 1022-10O3BS  
NBU 1022-10O2CS

**Location:** Township 10 South, Range 22 East, Section 10

**Survey**

**Date(s):** April 20, 2009  
April 21, 2009  
May 6, 2009

**Observer(s):** SWCA Environmental Consultants, Inc.

**Weather:** April 20: 60-70° Fahrenheit, 0-5% cloud cover, wind speed 0-2 mph  
April 21: 60-70° Fahrenheit, 0% cloud cover, wind speed 0-2 mph  
May 6: 70° Fahrenheit, 10% cloud cover, wind speed 0-5 mph

### PROPOSED PROJECT:

Anadarko proposes to upgrade an existing pipeline and construct gas wells NBU 1022-10M1DS, NBU 1022-10M1AS, NBU 1022-10O3BS, and NBU 1022-10O2CS in Township 10 South, Range 22 East and Section 10. The proposed gas wells are located west of Bonanza, Utah in the Book Cliffs Management Area of the BLM Vernal Field Office. The project area has been historically impacted by mineral extraction activities, transportation corridors, agricultural and ranching activities, livestock grazing, and erosion. There is currently well construction activity occurring within the project area. The pipeline has been rerouted to avoid *Sclerocactus* individuals. Maps of the proposed wells, pipeline upgrade, and pipeline reroute can be found in Appendix D.

### PROJECT AREA DESCRIPTION:

The proposed project area is underlain by sedimentary deposits of the Green River Formation of Late Middle Eocene age at an elevation of approximately 5,100 feet. Soils in the project area are predominantly sand and silt. Topography in the project area consists of rolling, sometimes steep terrain with rock outcroppings and a wash. The slopes within the project area boundary range from 0 to 110 percent

The vegetation in the project area is a desert shrub community. For a complete list of common plants associated with the desert shrub community in the project area see Appendix A.

### SURVEY METHODOLOGY:

In April and May of 2009, the Utah Department of Wildlife Resources website (<http://dwrcdc.nr.utah.gov/ucdc/>) and the Fish and Wildlife Service (<http://www.fws.gov/mountain-prairie/endspp/countylists/utah.pdf>) were reviewed for Uintah County. These sites contain the U.S. Fish and Wildlife Service list of threatened, endangered,

# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:  
3160  
(UT-922)

August 14, 2009

### Memorandum

To: Assistant District Manager Minerals, Vernal District  
From: Michael Coulthard, Petroleum Engineer  
Subject: 2009 Plan of Development Natural Buttes Unit  
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2009 within the Natural Buttes Unit, Uintah County, Utah.

| API #                            | WELL NAME       | LOCATION   |
|----------------------------------|-----------------|--|
| (Proposed PZ WASATCH-MESA VERDE) |                 |  |
| 43-047-50631                     | NBU 920-21KT    | Sec 21 T09S R20E 1834 FSL 2049 FWL   |
| 43-047-50632                     | NBU 920-21I     | Sec 21 T09S R20E 2381 FSL 0645 FEL   |
| 43-047-50635                     | NBU 1022-10M1AS | Sec 10 T10S R22E 0173 FSL 1784 FWL<br>BHL Sec 10 T10S R22E 1310 FSL 1030 FWL |
| 43-047-50636                     | NBU 1022-10M1DS | Sec 10 T10S R22E 0167 FSL 1765 FWL<br>BHL Sec 10 T10S R22E 0800 FSL 1030 FWL |
| 43-047-50637                     | NBU 1022-10O2CS | Sec 10 T10S R22E 0180 FSL 1803 FWL<br>BHL Sec 10 T10S R22E 0915 FSL 2310 FEL |
| 43-047-50638                     | NBU 1022-10O3BS | Sec 10 T10S R22E 0187 FSL 1822 FWL<br>BHL Sec 10 T10S R22E 0405 FSL 2310 FEL |

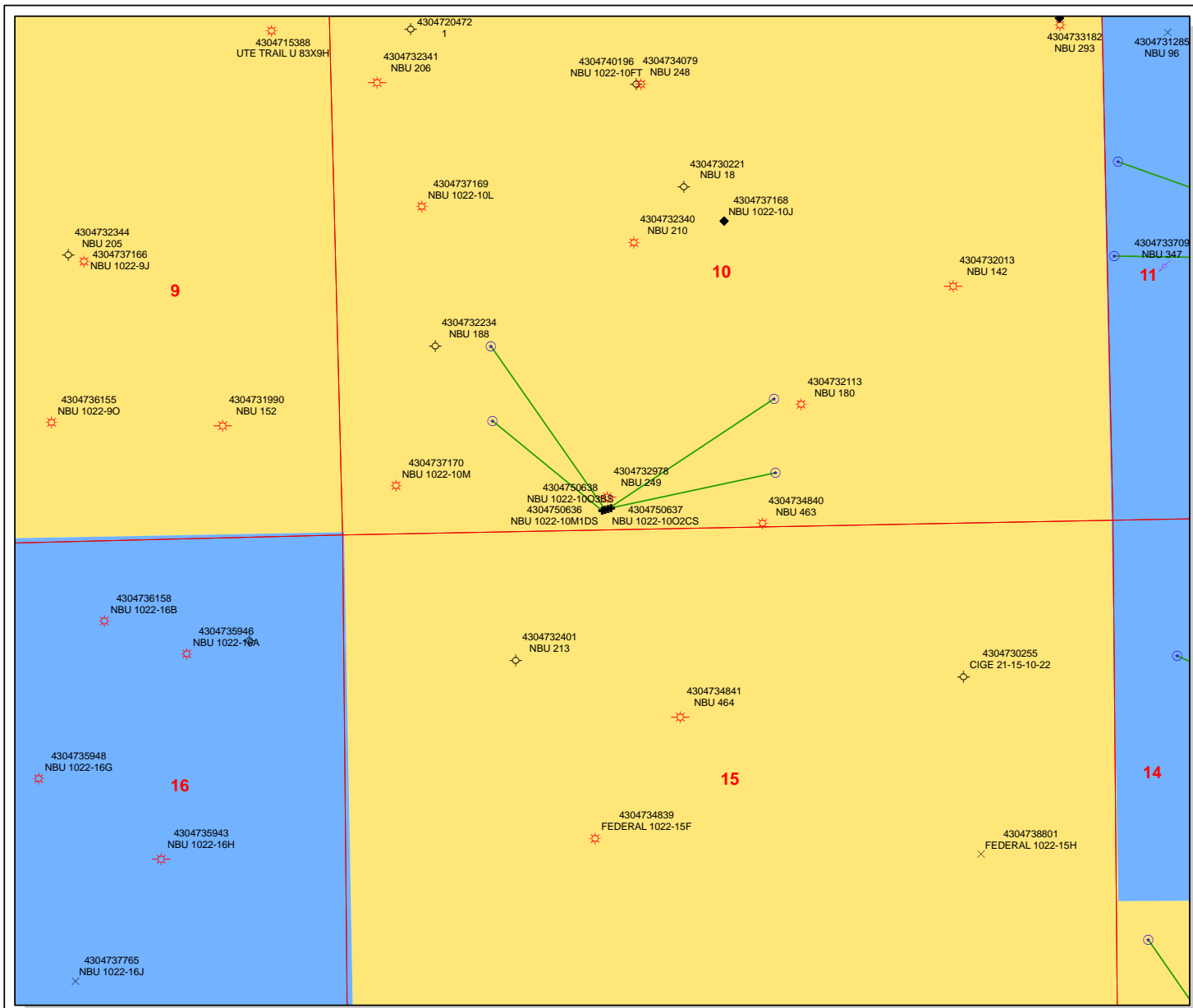
This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File - Natural Buttes Unit  
Division of Oil Gas and Mining  
Central Files  
Agr. Sec. Chron  
Fluid Chron

MCoulthard:mc:8-14-09

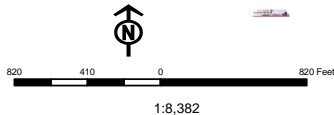




**API Number: 4304750636**  
**Well Name: NBU 1022-10M1DS**  
**Township 10.0 S Range 22.0 E Section 10**  
**Meridian: SLBM**  
 Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:  
 Map Produced by Diana Mason

- Sections Wells Query Events**
- GIS\_STAT\_TYPE**
- <Null>
  - APD
  - DRL
  - GI
  - GS
  - LA
  - NEW
  - OPS
  - PA
  - PGW
  - POW
  - RET
  - SGW
  - SOW
  - TA
  - TW
  - WD
  - WI
  - WS



# WORKSHEET

## APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 8/13/2009

**API NO. ASSIGNED:** 43047506360000

**WELL NAME:** NBU 1022-10M1DS

**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)

**PHONE NUMBER:** 720 929-6156

**CONTACT:** Danielle Piernot

**PROPOSED LOCATION:** SESW 10 100S 220E

**Permit Tech Review:** ☒

**SURFACE:** 0167 FSL 1765 FWL

**Engineering Review:** ☒

**BOTTOM:** 0800 FSL 1030 FWL

**Geology Review:** ☒

**COUNTY:** UINTAH

**LATITUDE:** 39.95661

**LONGITUDE:** -109.42837

**UTM SURF EASTINGS:** 634246.00

**NORTHINGS:** 4423914.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 1 - Federal

**LEASE NUMBER:** UTU 01196C

**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

**SURFACE OWNER:** 1 - Federal

**COALBED METHANE:** NO

### RECEIVED AND/OR REVIEWED:

☒ **PLAT**

☒ **Bond:** FEDERAL - WYB000291

☐ **Potash**

☒ **Oil Shale 190-5**

☐ **Oil Shale 190-3**

☐ **Oil Shale 190-13**

☒ **Water Permit:** Permit #43-8496

☐ **RDCC Review:**

☐ **Fee Surface Agreement**

☒ **Intent to Commingle**

**Commingle Approved**

### LOCATION AND SITING:

☐ **R649-2-3.**

**Unit:** NATURAL BUTTES

☐ **R649-3-2. General**

☒ **R649-3-3. Exception**

☒ **Drilling Unit**

**Board Cause No:** Cause 173-14

**Effective Date:** 12/2/1999

**Siting:** 460' fr u bdry & uncomm. tract

☒ **R649-3-11. Directional Drill**

**Comments:** Presite Completed

**Stipulations:**  
1 - Exception Location - dmason  
3 - Commingle - ddoucet  
4 - Federal Approval - dmason  
15 - Directional - dmason  
17 - Oil Shale 190-5(b) - dmason



JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

### Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 1022-10M1DS

**API Well Number:** 43047506360000

**Lease Number:** UTU 01196C

**Surface Owner:** FEDERAL

**Approval Date:** 8/31/2009

**Issued to:**

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

**Authority:**

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

**Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

**Exception Location:**

Appropriate information has been submitted to DOGM and administrative approval of the requested exception location is hereby granted.

**Commingle:**

In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

**General:**

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

**Conditions of Approval:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale

Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

**Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

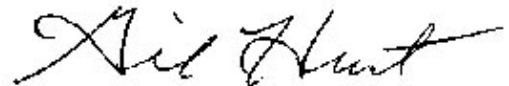
- Within 24 hours following the spudding of the well – contact Carol Daniels at 801-538-5284 (please leave a voicemail message if not available)  
OR  
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <https://oilgas.ogm.utah.gov>

**Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

**Approved By:**

A handwritten signature in black ink, appearing to read "Gil Hunt", with a stylized, cursive script.

Gil Hunt  
Associate Director, Oil & Gas



|   |   |  |   |   |  |
|---|---|--|---|---|--|
| <b>STATE OF UTAH</b><br>DEPARTMENT OF NATURAL RESOURCES<br>DIVISION OF OIL, GAS, AND MINING   |   | <b>FORM 9</b>  |   |   |  |
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b><br><br>Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.  |   | <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b><br>UTU 01196C   |   |   |  |
| <b>1. TYPE OF WELL</b><br>Gas Well  |   | <b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>   |   |   |  |
| <b>2. NAME OF OPERATOR:</b><br>KERR-MCGEE OIL & GAS ONSHORE, L.P.   |   | <b>7. UNIT or CA AGREEMENT NAME:</b><br>NATURAL BUTTES   |   |   |  |
| <b>3. ADDRESS OF OPERATOR:</b><br>P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779   |   | <b>8. WELL NAME and NUMBER:</b><br>NBU 1022-10M1DS   |   |   |  |
| <b>4. LOCATION OF WELL</b><br><b>FOOTAGES AT SURFACE:</b><br>0167 FSL 1765 FWL<br><b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b><br>Qtr/Qtr: SESW Section: 10 Township: 10.0S Range: 22.0E Meridian: S   |   | <b>9. API NUMBER:</b><br>43047506360000  |   |   |  |
| <b>PHONE NUMBER:</b><br>720 929-6007 Ext  |   | <b>9. FIELD and POOL or WILDCAT:</b><br>NATURAL BUTTES   |   |   |  |
| <b>COUNTY:</b><br>UTAH  |   | <b>STATE:</b><br>UTAH  |   |   |  |
| <b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>  |   |  |   |   |  |
| <b>TYPE OF SUBMISSION</b>   | <b>TYPE OF ACTION</b>   |  |   |   |  |
| <input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b><br>Approximate date work will start:<br>8/31/2010<br><br><input type="checkbox"/> <b>SUBSEQUENT REPORT</b><br>Date of Work Completion:<br><br><input type="checkbox"/> <b>SPUD REPORT</b><br>Date of Spud:<br><br><input type="checkbox"/> <b>DRILLING REPORT</b><br>Report Date:   | <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE<br/> <input type="checkbox"/> CHANGE TO PREVIOUS PLANS<br/> <input type="checkbox"/> CHANGE WELL STATUS<br/> <input type="checkbox"/> DEEPEN<br/> <input type="checkbox"/> OPERATOR CHANGE<br/> <input type="checkbox"/> PRODUCTION START OR RESUME<br/> <input type="checkbox"/> REPERFORATE CURRENT FORMATION<br/> <input type="checkbox"/> TUBING REPAIR<br/> <input type="checkbox"/> WATER SHUTOFF<br/> <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING<br/> <input type="checkbox"/> CHANGE TUBING<br/> <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS<br/> <input type="checkbox"/> FRACTURE TREAT<br/> <input type="checkbox"/> PLUG AND ABANDON<br/> <input type="checkbox"/> RECLAMATION OF WELL SITE<br/> <input type="checkbox"/> SIDETRACK TO REPAIR WELL<br/> <input type="checkbox"/> VENT OR FLARE<br/> <input type="checkbox"/> SI TA STATUS EXTENSION<br/> <input type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR<br/> <input type="checkbox"/> CHANGE WELL NAME<br/> <input type="checkbox"/> CONVERT WELL TYPE<br/> <input type="checkbox"/> NEW CONSTRUCTION<br/> <input type="checkbox"/> PLUG BACK<br/> <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION<br/> <input type="checkbox"/> TEMPORARY ABANDON<br/> <input type="checkbox"/> WATER DISPOSAL<br/> <input checked="" type="checkbox"/> APD EXTENSION<br/>           OTHER: <input style="width: 100px;" type="text"/> </td> </tr> </table> |  | <input type="checkbox"/> ACIDIZE<br><input type="checkbox"/> CHANGE TO PREVIOUS PLANS<br><input type="checkbox"/> CHANGE WELL STATUS<br><input type="checkbox"/> DEEPEN<br><input type="checkbox"/> OPERATOR CHANGE<br><input type="checkbox"/> PRODUCTION START OR RESUME<br><input type="checkbox"/> REPERFORATE CURRENT FORMATION<br><input type="checkbox"/> TUBING REPAIR<br><input type="checkbox"/> WATER SHUTOFF<br><input type="checkbox"/> WILDCAT WELL DETERMINATION | <input type="checkbox"/> ALTER CASING<br><input type="checkbox"/> CHANGE TUBING<br><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS<br><input type="checkbox"/> FRACTURE TREAT<br><input type="checkbox"/> PLUG AND ABANDON<br><input type="checkbox"/> RECLAMATION OF WELL SITE<br><input type="checkbox"/> SIDETRACK TO REPAIR WELL<br><input type="checkbox"/> VENT OR FLARE<br><input type="checkbox"/> SI TA STATUS EXTENSION<br><input type="checkbox"/> OTHER | <input type="checkbox"/> CASING REPAIR<br><input type="checkbox"/> CHANGE WELL NAME<br><input type="checkbox"/> CONVERT WELL TYPE<br><input type="checkbox"/> NEW CONSTRUCTION<br><input type="checkbox"/> PLUG BACK<br><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION<br><input type="checkbox"/> TEMPORARY ABANDON<br><input type="checkbox"/> WATER DISPOSAL<br><input checked="" type="checkbox"/> APD EXTENSION<br>OTHER: <input style="width: 100px;" type="text"/> |
| <input type="checkbox"/> ACIDIZE<br><input type="checkbox"/> CHANGE TO PREVIOUS PLANS<br><input type="checkbox"/> CHANGE WELL STATUS<br><input type="checkbox"/> DEEPEN<br><input type="checkbox"/> OPERATOR CHANGE<br><input type="checkbox"/> PRODUCTION START OR RESUME<br><input type="checkbox"/> REPERFORATE CURRENT FORMATION<br><input type="checkbox"/> TUBING REPAIR<br><input type="checkbox"/> WATER SHUTOFF<br><input type="checkbox"/> WILDCAT WELL DETERMINATION | <input type="checkbox"/> ALTER CASING<br><input type="checkbox"/> CHANGE TUBING<br><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS<br><input type="checkbox"/> FRACTURE TREAT<br><input type="checkbox"/> PLUG AND ABANDON<br><input type="checkbox"/> RECLAMATION OF WELL SITE<br><input type="checkbox"/> SIDETRACK TO REPAIR WELL<br><input type="checkbox"/> VENT OR FLARE<br><input type="checkbox"/> SI TA STATUS EXTENSION<br><input type="checkbox"/> OTHER   | <input type="checkbox"/> CASING REPAIR<br><input type="checkbox"/> CHANGE WELL NAME<br><input type="checkbox"/> CONVERT WELL TYPE<br><input type="checkbox"/> NEW CONSTRUCTION<br><input type="checkbox"/> PLUG BACK<br><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION<br><input type="checkbox"/> TEMPORARY ABANDON<br><input type="checkbox"/> WATER DISPOSAL<br><input checked="" type="checkbox"/> APD EXTENSION<br>OTHER: <input style="width: 100px;" type="text"/> |   |   |  |
| <b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b><br>Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.   |   |  |   |   |  |
| <div style="text-align: right;"> <b>Approved by the<br/>Utah Division of<br/>Oil, Gas and Mining</b> </div>   |   | <b>Date:</b> August 31, 2010   |   |   |  |
| <div style="text-align: right;"> <b>By:</b> </div>  |   |  |   |   |  |
| <b>NAME (PLEASE PRINT)</b><br>Danielle Piernot  |   | <b>PHONE NUMBER</b><br>720 929-6156  |   |   |  |
| <b>SIGNATURE</b><br>N/A   |   | <b>TITLE</b><br>Regulatory Analyst   |   |   |  |
|   |   | <b>DATE</b><br>8/30/2010   |   |   |  |

**RECEIVED** August 30, 2010



## The Utah Division of Oil, Gas, and Mining

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

### Request for Permit Extension Validation Well Number 43047506360000

**API:** 43047506360000

**Well Name:** NBU 1022-10M1DS

**Location:** 0167 FSL 1765 FWL QTR SESW SEC 10 TWNP 100S RNG 220E MER S

**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 8/31/2009

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated? ☐ Yes ☒ No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? ☐ Yes ☒ No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? ☐ Yes ☒ No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ☐ Yes ☒ No
- Has the approved source of water for drilling changed? ☐ Yes ☒ No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? ☐ Yes ☒ No
- Is bonding still in place, which covers this proposed well? ☒ Yes ☐ No

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Signature:** Danielle Piernot

**Date:** 8/30/2010

**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date:** August 31, 2010

**By:** 

**RECEIVED** August 30, 2010

RECEIVED

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

AUG 14 2009  
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FORM APPROVED  
OMB No. 1004-0136  
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

|  |   |  |
|--|---|--|
| 1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER   |   | 5. Lease Serial No.<br>UTU01196C   |
| 1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone                         |   | 6. If Indian, Allottee or Tribe Name   |
| 2. Name of Operator<br>KERRMCGEE OIL&GAS ONSHORE LP<br>Contact: DANIELLE E PIERNOT<br>Email: Danielle.Piernot@anadarko.com   |   | 7. If Unit or CA Agreement, Name and No.<br>891008900A                       |
| 3a. Address<br>PO BOX 173779<br>DENVER, CO 80202-3779  | 3b. Phone No. (include area code)<br>Ph: 720-929-6156<br>Fx: 720-929-7156 | 8. Lease Name and Well No.<br>NBU 1022-10M1DS                                |
| 4. Location of Well (Report location clearly and in accordance with any State requirements. *)<br>At surface SESW 167FSL 1765FWL 39.95670 N Lat, 109.42905 W Lon<br>At proposed prod. zone SWSW 800FSL 1030FWL 39.95844 N Lat, 109.43168 W Lon |   | 9. API Well No.<br>43 047 50636  |
| 14. Distance in miles and direction from nearest town or post office*<br>APPROXIMATELY 25 MILES SOUTHEAST OF OURAY, UTAH   |   | 10. Field and Pool, or Exploratory<br>NATURAL BUTTES                         |
| 15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)<br>800 FEET   | 16. No. of Acres in Lease<br>400.00                                       | 11. Sec., T., R., M., or Blk. and Survey or Area<br>Sec 10 T10S R22E Mer SLB |
| 18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.<br>APPROXIMATELY 510 FEET  | 19. Proposed Depth<br>8788 MD<br>8610 TVD                                 | 12. County or Parish<br>UINTAH   |
| 21. Elevations (Show whether DF, KB, RT, GL, etc.)<br>5094 GL  | 22. Approximate date work will start<br>08/31/2009                        | 13. State<br>UT  |
| 23. Estimated duration<br>60-90 DAYS   |   | 17. Spacing Unit dedicated to this well                                      |

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- |   |  |
|---|--|
| 1. Well plat certified by a registered surveyor.  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan.   | 5. Operator certification  |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

|   |   |                     |
|---|---|---------------------|
| 25. Signature<br>(Electronic Submission)                      | Name (Printed/Typed)<br>DANIELLE E PIERNOT Ph: 720-929-6156 | Date<br>08/14/2009  |
| Title<br>REGULATORY ANALYST                                   |   |                     |
| Approved by (Signature)<br>                                   | Name (Printed/Typed)<br>Jerry Kenczka                       | Date<br>APR 07 2011 |
| Title<br>Assistant Field Manager<br>Lands & Mineral Resources | Office<br>VERNAL FIELD OFFICE                               |                     |

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
Conditions of approval, if any, are attached.

CONDITIONS OF APPROVAL ATTACHED

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #73219 verified by the BLM Well Information System  
For KERRMCGEE OIL&GAS ONSHORE LP, sent to the Vernal  
Committed to AFMSS for processing by ROBIN R. HANSEN on 08/17/2009 ()

NOTICE OF APPROVAL

UDOGM

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

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APR 13 2011

DIV. OF OIL, GAS & MINING

ADVERT 270000

11-1-2-12-20



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
VERNAL FIELD OFFICE

170 South 500 East

VERNAL, UT 84078

(435) 781-4400



**CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL**

|          |                              |            |                           |
|----------|------------------------------|------------|---------------------------|
| Company: | Kerr McGee Oil & Gas Onshore | Location:  | SESW, Sec. 10, T10S, R22E |
| Well No: | NBU 1022-10M1DS              | Lease No:  | UTU-01196C                |
| API No:  | 43-047-50636                 | Agreement: | Natural Buttes Unit       |

**OFFICE NUMBER: (435) 781-4400**

**OFFICE FAX NUMBER: (435) 781-3420**

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR  
FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

**NOTIFICATION REQUIREMENTS**

|   |  |
|---|--|
| Location Construction<br>(Notify Environmental Scientist)       | - Forty-Eight (48) hours prior to construction of location and access roads.   |
| Location Completion<br>(Notify Environmental Scientist)         | - Prior to moving on the drilling rig.   |
| Spud Notice<br>(Notify Petroleum Engineer)                      | - Twenty-Four (24) hours prior to spudding the well.   |
| Casing String & Cementing<br>(Notify Supv. Petroleum Tech.)     | - Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:ut_vn_opreport@blm.gov">ut_vn_opreport@blm.gov</a> . |
| BOP & Related Equipment Tests<br>(Notify Supv. Petroleum Tech.) | - Twenty-Four (24) hours prior to initiating pressure tests.   |
| First Production Notice<br>(Notify Petroleum Engineer)          | - Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.             |



***SURFACE USE PROGRAM  
CONDITIONS OF APPROVAL (COAs)***

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO<sub>x</sub> per horsepower-hour.
- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.
- If paleontological materials are uncovered during construction, the operator is to immediately stop work and contact the Authorized Officer (AO). A determination will be made by the AO as to what mitigation may be necessary for the discovered paleontologic material before construction can continue.
- During operations, if any vertebrate paleontological resources are discovered, in accordance with **Section 6 of Form 3100-11** and **43 CFR 3162.1**, all operations affecting such sites shall be immediately suspended, and all discoveries shall be left intact until authorized to proceed by the Authorized Officer. The appropriate Authorized Officer of the Vernal BLM office shall be notified within 48 hours of the discovery, an a decision as to the preferred alternative/course of action will be rendered.
- Kerr McGee will adhere to all applicant committed conservation measures and conservation recommendations that are stated in the USFWS's "Final Biological Opinion for the Anadarko Petroleum Corporation Natural Buttes Unit and Bonanza Area Natural Gas Development Project."
- The operator will follow the Green River District Reclamation Guidelines for reclamation.
- The operator will control noxious weeds along the well pad, access road, and the pipeline route by spraying or mechanical removal. On BLM administered land, a Pesticide Use Proposal (PUP) will be submitted and approved prior to the application of herbicides or pesticides or possibly hazardous chemicals.

**DOWNHOLE PROGRAM  
CONDITIONS OF APPROVAL (COAs)**

**SITE SPECIFIC DOWNHOLE COAs:**

- A Gamma Ray Log shall be run from TD to surface

**Variances Granted:**

**Air Drilling:**

- Properly lubricated and maintained rotating head, variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
- Blooie line discharge 100' from the well bore, variance granted for blooie line discharge to be 45' from the well bore.
- Compressors located in the opposite direction from the blooie line a minimum of 100' from the well bore. Variance granted for two truck/trailer mounted air compressors located within 40 feet from the well bore and 60' from the blooie line.
- In lieu of mud products on location, Kerr McGee will fill the reserve pit with water for kill fluid.
- Automatic igniter. Variance granted for igniter due to there being no productive formations while drilling with air.

**All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to.** The following items are emphasized:

**DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS**

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.

- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well in LAS format to UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

## OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at [www.ONRR.gov](http://www.ONRR.gov).
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - Operator name, address, and telephone number.
  - Well name and number.
  - Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs,



core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| <b>STATE OF UTAH</b><br>DEPARTMENT OF NATURAL RESOURCES<br>DIVISION OF OIL, GAS, AND MINING   |   | <b>FORM 9</b>   |   |   |   |
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b><br><br>Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.  |   | <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b><br>UTU 01196C  |   |   |   |
| <b>1. TYPE OF WELL</b><br>Gas Well  |   | <b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  |   |   |   |
| <b>2. NAME OF OPERATOR:</b><br>KERR-MCGEE OIL & GAS ONSHORE, L.P.   |   | <b>7. UNIT or CA AGREEMENT NAME:</b><br>NATURAL BUTTES  |   |   |   |
| <b>3. ADDRESS OF OPERATOR:</b><br>P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779   |   | <b>8. WELL NAME and NUMBER:</b><br>NBU 1022-10M1DS  |   |   |   |
| <b>4. LOCATION OF WELL</b><br><b>FOOTAGES AT SURFACE:</b><br>0167 FSL 1765 FWL<br><b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b><br>Qtr/Qtr: SESW Section: 10 Township: 10.0S Range: 22.0E Meridian: S   |   | <b>9. API NUMBER:</b><br>43047506360000   |   |   |   |
| <b>10. FIELD and POOL or WILDCAT:</b><br>NATURAL BUTTES   |   | <b>COUNTY:</b><br>UINTAH  |   |   |   |
| <b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>  |   | <b>STATE:</b><br>UTAH   |   |   |   |
| <b>TYPE OF SUBMISSION</b><br><br><input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b><br>Approximate date work will start:<br>7/12/2011<br><br><input type="checkbox"/> <b>SUBSEQUENT REPORT</b><br>Date of Work Completion:<br><br><input type="checkbox"/> <b>SPUD REPORT</b><br>Date of Spud:<br><br><input type="checkbox"/> <b>DRILLING REPORT</b><br>Report Date:  | <b>TYPE OF ACTION</b><br><br><table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE<br/> <input type="checkbox"/> CHANGE TO PREVIOUS PLANS<br/> <input type="checkbox"/> CHANGE WELL STATUS<br/> <input type="checkbox"/> DEEPEN<br/> <input type="checkbox"/> OPERATOR CHANGE<br/> <input type="checkbox"/> PRODUCTION START OR RESUME<br/> <input type="checkbox"/> REPERFORATE CURRENT FORMATION<br/> <input type="checkbox"/> TUBING REPAIR<br/> <input type="checkbox"/> WATER SHUTOFF<br/> <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING<br/> <input type="checkbox"/> CHANGE TUBING<br/> <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS<br/> <input type="checkbox"/> FRACTURE TREAT<br/> <input type="checkbox"/> PLUG AND ABANDON<br/> <input type="checkbox"/> RECLAMATION OF WELL SITE<br/> <input type="checkbox"/> SIDETRACK TO REPAIR WELL<br/> <input type="checkbox"/> VENT OR FLARE<br/> <input type="checkbox"/> SI TA STATUS EXTENSION<br/> <input type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR<br/> <input type="checkbox"/> CHANGE WELL NAME<br/> <input type="checkbox"/> CONVERT WELL TYPE<br/> <input type="checkbox"/> NEW CONSTRUCTION<br/> <input type="checkbox"/> PLUG BACK<br/> <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION<br/> <input type="checkbox"/> TEMPORARY ABANDON<br/> <input type="checkbox"/> WATER DISPOSAL<br/> <input checked="" type="checkbox"/> <b>APD EXTENSION</b><br/>         OTHER: <input style="width: 100px;" type="text"/> </td> </tr> </table> |   | <input type="checkbox"/> ACIDIZE<br><input type="checkbox"/> CHANGE TO PREVIOUS PLANS<br><input type="checkbox"/> CHANGE WELL STATUS<br><input type="checkbox"/> DEEPEN<br><input type="checkbox"/> OPERATOR CHANGE<br><input type="checkbox"/> PRODUCTION START OR RESUME<br><input type="checkbox"/> REPERFORATE CURRENT FORMATION<br><input type="checkbox"/> TUBING REPAIR<br><input type="checkbox"/> WATER SHUTOFF<br><input type="checkbox"/> WILDCAT WELL DETERMINATION | <input type="checkbox"/> ALTER CASING<br><input type="checkbox"/> CHANGE TUBING<br><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS<br><input type="checkbox"/> FRACTURE TREAT<br><input type="checkbox"/> PLUG AND ABANDON<br><input type="checkbox"/> RECLAMATION OF WELL SITE<br><input type="checkbox"/> SIDETRACK TO REPAIR WELL<br><input type="checkbox"/> VENT OR FLARE<br><input type="checkbox"/> SI TA STATUS EXTENSION<br><input type="checkbox"/> OTHER | <input type="checkbox"/> CASING REPAIR<br><input type="checkbox"/> CHANGE WELL NAME<br><input type="checkbox"/> CONVERT WELL TYPE<br><input type="checkbox"/> NEW CONSTRUCTION<br><input type="checkbox"/> PLUG BACK<br><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION<br><input type="checkbox"/> TEMPORARY ABANDON<br><input type="checkbox"/> WATER DISPOSAL<br><input checked="" type="checkbox"/> <b>APD EXTENSION</b><br>OTHER: <input style="width: 100px;" type="text"/> |
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| <b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b><br><br>Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.   |   |   |   |   |   |
| <b>Approved by the<br/>Utah Division of<br/>Oil, Gas and Mining</b><br><br><b>Date:</b> 07/12/2011<br><b>By:</b>  |   |   |   |   |   |
| <b>NAME (PLEASE PRINT)</b><br>Andy Lytle  |   | <b>PHONE NUMBER</b><br>720 929-6100   |   |   |   |
| <b>SIGNATURE</b><br>N/A   |   | <b>TITLE</b><br>Regulatory Analyst  |   |   |   |
| <b>DATE</b><br>7/12/2011  |   |   |   |   |   |



## The Utah Division of Oil, Gas, and Mining

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

### Request for Permit Extension Validation Well Number 43047506360000

**API:** 43047506360000

**Well Name:** NBU 1022-10M1DS

**Location:** 0167 FSL 1765 FWL QTR SESW SEC 10 TWNP 100S RNG 220E MER S

**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 8/31/2009

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated? ☐ Yes ☒ No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? ☐ Yes ☒ No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? ☐ Yes ☒ No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ☐ Yes ☒ No
- Has the approved source of water for drilling changed? ☐ Yes ☒ No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? ☐ Yes ☒ No
- Is bonding still in place, which covers this proposed well? ☒ Yes ☐ No

**Signature:** Andy Lytle

**Date:** 7/12/2011

**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**RECEIVED** Jul. 12, 2011

## BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG  
Submitted By ANDY LYTLE Phone Number 720.929.6100  
Well Name/Number NBU 1022-10M1DS  
Qtr/Qtr SESW Section 10 Township 10S Range 22E  
Lease Serial Number UTU01196C  
API Number 4304750636

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 08/22/2011 14:00 HRS AM ☐ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☒ Surface Casing  
☐ Intermediate Casing  
☐ Production Casing  
☐ Liner  
☐ Other

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AUG 22 2011

DIV. OF OIL, GAS & MINING

Date/Time 09/11/2011 00:00 HRS AM ☐ PM ☐

BOPE

- ☐ Initial BOPE test at surface casing point  
☐ BOPE test at intermediate casing point  
☐ 30 day BOPE test  
☐ Other

Date/Time \_\_\_\_\_ AM ☐ PM ☐

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT KENNY GATHINGS AT

435.828.0986 OR LOVEL YOUNG AT 435.781.7051



|  |  |  |
|--|--|--|
| <b>STATE OF UTAH</b><br>DEPARTMENT OF NATURAL RESOURCES<br>DIVISION OF OIL, GAS, AND MINING  |  | <b>FORM 9</b>  |
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b><br><br>Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.   |  | <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b><br>UTU 01196C |
| <b>1. TYPE OF WELL</b><br>Gas Well   |  | <b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>                 |
| <b>2. NAME OF OPERATOR:</b><br>KERR-MCGEE OIL & GAS ONSHORE, L.P.  |  | <b>7. UNIT or CA AGREEMENT NAME:</b><br>NATURAL BUTTES       |
| <b>3. ADDRESS OF OPERATOR:</b><br>P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779  |  | <b>8. WELL NAME and NUMBER:</b><br>NBU 1022-10M1DS           |
| <b>4. LOCATION OF WELL</b><br><b>FOOTAGES AT SURFACE:</b><br>0167 FSL 1765 FWL<br><b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b><br>Qtr/Qtr: SESW Section: 10 Township: 10.0S Range: 22.0E Meridian: S  |  | <b>9. API NUMBER:</b><br>43047506360000                      |
| <b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>   |  | <b>9. FIELD and POOL or WILDCAT:</b><br>NATURAL BUTTES       |
| <b>TYPE OF SUBMISSION</b><br><br><input type="checkbox"/> NOTICE OF INTENT<br>Approximate date work will start:<br><br><input type="checkbox"/> SUBSEQUENT REPORT<br>Date of Work Completion:<br><br><input checked="" type="checkbox"/> SPUD REPORT<br>Date of Spud:<br>8/23/2011<br><br><input type="checkbox"/> DRILLING REPORT<br>Report Date: | <b>TYPE OF ACTION</b><br><br><div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE<br/> <input type="checkbox"/> CHANGE TO PREVIOUS PLANS<br/> <input type="checkbox"/> CHANGE WELL STATUS<br/> <input type="checkbox"/> DEEPEN<br/> <input type="checkbox"/> OPERATOR CHANGE<br/> <input type="checkbox"/> PRODUCTION START OR RESUME<br/> <input type="checkbox"/> REPERFORATE CURRENT FORMATION<br/> <input type="checkbox"/> TUBING REPAIR<br/> <input type="checkbox"/> WATER SHUTOFF<br/> <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING<br/> <input type="checkbox"/> CHANGE TUBING<br/> <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS<br/> <input type="checkbox"/> FRACTURE TREAT<br/> <input type="checkbox"/> PLUG AND ABANDON<br/> <input type="checkbox"/> RECLAMATION OF WELL SITE<br/> <input type="checkbox"/> SIDETRACK TO REPAIR WELL<br/> <input type="checkbox"/> VENT OR FLARE<br/> <input type="checkbox"/> SI TA STATUS EXTENSION<br/> <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR<br/> <input type="checkbox"/> CHANGE WELL NAME<br/> <input type="checkbox"/> CONVERT WELL TYPE<br/> <input type="checkbox"/> NEW CONSTRUCTION<br/> <input type="checkbox"/> PLUG BACK<br/> <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION<br/> <input type="checkbox"/> TEMPORARY ABANDON<br/> <input type="checkbox"/> WATER DISPOSAL<br/> <input type="checkbox"/> APD EXTENSION<br/>           OTHER: <input style="width: 100px;" type="text"/> </div> </div> |  |
| <b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b><br>MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'.<br>RAN 14" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL ON<br>08/23/2011 AT 1500 HRS.   |  |  |
| <b>Accepted by the<br/>         Utah Division of<br/>         Oil, Gas and Mining<br/>         FOR RECORD ONLY</b>   |  |  |
| <b>NAME (PLEASE PRINT)</b><br>Sheila Wopsock   |  | <b>PHONE NUMBER</b><br>435 781-7024                          |
| <b>SIGNATURE</b><br>N/A  |  | <b>TITLE</b><br>Regulatory Analyst                           |
| <b>DATE</b><br>8/25/2011   |  |  |

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 6

**ENTITY ACTION FORM**

Operator: KERR MCGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995  
Address: 1368 SOUTH 1200 EAST  
city VERNAL  
state UT zip 84078 Phone Number: (435) 781-7024

**Well 1**

| API Number   | Well Name             |                   | QQ        | Sec | Twp | Rng                              | County |
|--|-----------------------|-------------------|-----------|-----|-----|----------------------------------|--------|
| 4304750636   | NBU 1022-10M1DS       |                   | SESW      | 10  | 10S | 22E                              | UINTAH |
| Action Code  | Current Entity Number | New Entity Number | Spud Date |     |     | Entity Assignment Effective Date |        |
| <u>B</u>   | 99999                 | <u>2900</u>       | 8/23/2011 |     |     | <u>8/29/11</u>                   |        |
| <b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u><br>SPUD WELL ON 08/23/2011 AT 1500 HRS. <u>BHL = SWSW</u> |                       |                   |           |     |     |                                  |        |

**Well 2**

| API Number   | Well Name             |                   | QQ        | Sec | Twp | Rng                              | County |
|--|-----------------------|-------------------|-----------|-----|-----|----------------------------------|--------|
| 4304750635   | NBU 1022-10M1AS       |                   | SESW      | 10  | 10S | 22E                              | UINTAH |
| Action Code  | Current Entity Number | New Entity Number | Spud Date |     |     | Entity Assignment Effective Date |        |
| <u>B</u>   | 99999                 | <u>2900</u>       | 8/23/2011 |     |     | <u>8/29/11</u>                   |        |
| <b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u><br>SPUD WELL ON 08/23/2011 AT 1100 HRS. <u>BHL = SWSW</u> |                       |                   |           |     |     |                                  |        |

**Well 3**

| API Number   | Well Name             |                   | QQ        | Sec | Twp | Rng                              | County |
|--|-----------------------|-------------------|-----------|-----|-----|----------------------------------|--------|
| 4304750638   | NBU 1021-1003BS       |                   | SESW      | 10  | 10S | 22E                              | UINTAH |
| Action Code  | Current Entity Number | New Entity Number | Spud Date |     |     | Entity Assignment Effective Date |        |
| <u>B</u>   | 99999                 | <u>2900</u>       | 8/22/2011 |     |     | <u>8/29/11</u>                   |        |
| <b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u><br>SPUD WELL ON 08/22/2011 AT 1300 HRS. <u>BHL = SWSE</u> |                       |                   |           |     |     |                                  |        |

**ACTION CODES:**

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

SHEILA WOPSOCK

Name (Please Print)

Signature

REGULATORY ANALYST

Title

8/25/2011

Date

(5/2000)

**RECEIVED**

**AUG 25 2011**

DIV. OF OIL, GAS & MINING

|   |  |   |   |   |   |
|---|--|---|---|---|---|
| <b>STATE OF UTAH</b><br>DEPARTMENT OF NATURAL RESOURCES<br>DIVISION OF OIL, GAS, AND MINING   |  | <b>FORM 9</b>   |   |   |   |
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| <b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b><br>MIRU AIR RIG ON SEPT 16, 2011. DRILLED SURFACE HOLE TO 2263'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.  |  |   |   |   |   |
| <b>Accepted by the<br/>         Utah Division of<br/>         Oil, Gas and Mining<br/>         FOR RECORD ONLY</b>  |  |   |   |   |   |
| <b>NAME (PLEASE PRINT)</b><br>Andy Lytle  |  | <b>PHONE NUMBER</b><br>720 929-6100   |   |   |   |
| <b>SIGNATURE</b><br>N/A   |  | <b>TITLE</b><br>Regulatory Analyst  |   |   |   |
| <b>DATE</b><br>9/21/2011  |  |   |   |   |   |

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# Ensign 139  
Submitted By KENNY MORRIS Phone Number 435- 828-0984  
Well Name/Number NBU-1022- 10M1DS  
Qtr/Qtr SE/SW Section 10 Township 10S Range 22E  
Lease Serial Number UTU01196C  
API Number 43-047-50636

Casing – Time casing run starts, not cementing times.

- ☐ Production Casing  
☐ Other

Date/Time 00:00 AM ☐ PM ☐

**RECEIVED**

**NOV 01 2011**

BOPE

DIV. OF OIL, GAS & MINING

- ☒ Initial BOPE test at surface casing point  
☐ Other

Date/Time 11/1/2011 00:00 AM ☒ PM ☐

Rig Move

Location To:       

Date/Time               AM ☐ PM ☐

Remarks BE SKIDDING RIG TO NBU 1022-10M1DS & TESTING  
B.O.P'S MONDAY  
10/31/2011



|  |   |  |   |  |  |
|--|---|--|---|--|--|
| <b>STATE OF UTAH</b><br>DEPARTMENT OF NATURAL RESOURCES<br>DIVISION OF OIL, GAS, AND MINING  |   | <b>FORM 9</b>  |   |  |  |
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b><br><br>Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.   |   | <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b><br>UTU 01196C   |   |  |  |
| <b>1. TYPE OF WELL</b><br>Gas Well   |   | <b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b><br><br>   |   |  |  |
| <b>2. NAME OF OPERATOR:</b><br>KERR-MCGEE OIL & GAS ONSHORE, L.P.  |   | <b>7. UNIT or CA AGREEMENT NAME:</b><br>NATURAL BUTTES   |   |  |  |
| <b>3. ADDRESS OF OPERATOR:</b><br>P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779  |   | <b>8. WELL NAME and NUMBER:</b><br>NBU 1022-10M1DS   |   |  |  |
| <b>4. LOCATION OF WELL</b><br><b>FOOTAGES AT SURFACE:</b><br>0167 FSL 1765 FWL<br><b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b><br>Qtr/Qtr: SESW Section: 10 Township: 10.0S Range: 22.0E Meridian: S  |   | <b>9. API NUMBER:</b><br>43047506360000  |   |  |  |
| <b>10. FIELD and POOL or WILDCAT:</b><br>NATURAL BUTTES  |   | <b>COUNTY:</b><br>UINTAH   |   |  |  |
| <b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>   |   | <b>STATE:</b><br>UTAH  |   |  |  |
| <b>TYPE OF SUBMISSION</b><br><br><input type="checkbox"/> NOTICE OF INTENT<br>Approximate date work will start:<br><br><input checked="" type="checkbox"/> SUBSEQUENT REPORT<br>Date of Work Completion:<br>11/7/2011<br><br><input type="checkbox"/> SPUD REPORT<br>Date of Spud:<br><br><input type="checkbox"/> DRILLING REPORT<br>Report Date:   | <b>TYPE OF ACTION</b><br><br><table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE<br/> <input type="checkbox"/> CHANGE TO PREVIOUS PLANS<br/> <input type="checkbox"/> CHANGE WELL STATUS<br/> <input type="checkbox"/> DEEPEN<br/> <input type="checkbox"/> OPERATOR CHANGE<br/> <input type="checkbox"/> PRODUCTION START OR RESUME<br/> <input type="checkbox"/> REPERFORATE CURRENT FORMATION<br/> <input type="checkbox"/> TUBING REPAIR<br/> <input type="checkbox"/> WATER SHUTOFF<br/> <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING<br/> <input type="checkbox"/> CHANGE TUBING<br/> <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS<br/> <input type="checkbox"/> FRACTURE TREAT<br/> <input type="checkbox"/> PLUG AND ABANDON<br/> <input type="checkbox"/> RECLAMATION OF WELL SITE<br/> <input type="checkbox"/> SIDETRACK TO REPAIR WELL<br/> <input type="checkbox"/> VENT OR FLARE<br/> <input type="checkbox"/> SI TA STATUS EXTENSION<br/> <input checked="" type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR<br/> <input type="checkbox"/> CHANGE WELL NAME<br/> <input type="checkbox"/> CONVERT WELL TYPE<br/> <input type="checkbox"/> NEW CONSTRUCTION<br/> <input type="checkbox"/> PLUG BACK<br/> <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION<br/> <input type="checkbox"/> TEMPORARY ABANDON<br/> <input type="checkbox"/> WATER DISPOSAL<br/> <input type="checkbox"/> APD EXTENSION         </td> </tr> </table> |  | <input type="checkbox"/> ACIDIZE<br><input type="checkbox"/> CHANGE TO PREVIOUS PLANS<br><input type="checkbox"/> CHANGE WELL STATUS<br><input type="checkbox"/> DEEPEN<br><input type="checkbox"/> OPERATOR CHANGE<br><input type="checkbox"/> PRODUCTION START OR RESUME<br><input type="checkbox"/> REPERFORATE CURRENT FORMATION<br><input type="checkbox"/> TUBING REPAIR<br><input type="checkbox"/> WATER SHUTOFF<br><input type="checkbox"/> WILDCAT WELL DETERMINATION | <input type="checkbox"/> ALTER CASING<br><input type="checkbox"/> CHANGE TUBING<br><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS<br><input type="checkbox"/> FRACTURE TREAT<br><input type="checkbox"/> PLUG AND ABANDON<br><input type="checkbox"/> RECLAMATION OF WELL SITE<br><input type="checkbox"/> SIDETRACK TO REPAIR WELL<br><input type="checkbox"/> VENT OR FLARE<br><input type="checkbox"/> SI TA STATUS EXTENSION<br><input checked="" type="checkbox"/> OTHER | <input type="checkbox"/> CASING REPAIR<br><input type="checkbox"/> CHANGE WELL NAME<br><input type="checkbox"/> CONVERT WELL TYPE<br><input type="checkbox"/> NEW CONSTRUCTION<br><input type="checkbox"/> PLUG BACK<br><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION<br><input type="checkbox"/> TEMPORARY ABANDON<br><input type="checkbox"/> WATER DISPOSAL<br><input type="checkbox"/> APD EXTENSION |
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| <b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b><br>MIRU ROTARY RIG. FINISHED DRILLING FROM 2263' TO 8785' ON NOV. 6, 2011. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED ENSIGN RIG 139 ON NOV. 7, 2011 @ 18:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES. THE PIT ON THIS LOCATION WILL BE REFURBISHED AND UTILIZED AS PART OF THE ACTS SYSTEM. |   |  |   |  |  |
| <b>NAME (PLEASE PRINT)</b><br>Jaime Scharnowske  |   | <b>PHONE NUMBER</b><br>720 929-6304  |   |  |  |
| <b>SIGNATURE</b><br>N/A  |   | <b>TITLE</b><br>Regulatory Analyst   |   |  |  |
| <b>DATE</b><br>11/8/2011   |   | <b>OTHER:</b> <span style="border: 1px solid black; padding: 2px;">RIG REL. - ACTS PIT</span>  |   |  |  |

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**

|  |   |  |                                  |                                       |  |   |  |   |   |   |  |                                 |   |   |  |   |                                    |   |   |   |  |   |  |  |  |   |  |   |  |   |   |  |
|--|---|--|----------------------------------|---------------------------------------|--|---|--|---|---|---|--|---------------------------------|---|---|--|---|------------------------------------|---|---|---|--|---|--|--|--|---|--|---|--|---|---|--|
| <b>STATE OF UTAH</b><br>DEPARTMENT OF NATURAL RESOURCES<br>DIVISION OF OIL, GAS, AND MINING  |   | <b>FORM 9</b>  |                                  |                                       |  |   |  |   |   |   |  |                                 |   |   |  |   |                                    |   |   |   |  |   |  |  |  |   |  |   |  |   |   |  |
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| <b>3. ADDRESS OF OPERATOR:</b><br>P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779  |   | <b>8. WELL NAME and NUMBER:</b><br>NBU 1022-10M1DS                                     |                                  |                                       |  |   |  |   |   |   |  |                                 |   |   |  |   |                                    |   |   |   |  |   |  |  |  |   |  |   |  |   |   |  |
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| <input type="checkbox"/> ACIDIZE   | <input type="checkbox"/> ALTER CASING   | <input type="checkbox"/> CASING REPAIR   |                                  |                                       |  |   |  |   |   |   |  |                                 |   |   |  |   |                                    |   |   |   |  |   |  |  |  |   |  |   |  |   |   |  |
| <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  | <input type="checkbox"/> CHANGE TUBING  | <input type="checkbox"/> CHANGE WELL NAME  |                                  |                                       |  |   |  |   |   |   |  |                                 |   |   |  |   |                                    |   |   |   |  |   |  |  |  |   |  |   |  |   |   |  |
| <input type="checkbox"/> CHANGE WELL STATUS  | <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   | <input type="checkbox"/> CONVERT WELL TYPE   |                                  |                                       |  |   |  |   |   |   |  |                                 |   |   |  |   |                                    |   |   |   |  |   |  |  |  |   |  |   |  |   |   |  |
| <input type="checkbox"/> DEEPEN  | <input type="checkbox"/> FRACTURE TREAT   | <input type="checkbox"/> NEW CONSTRUCTION  |                                  |                                       |  |   |  |   |   |   |  |                                 |   |   |  |   |                                    |   |   |   |  |   |  |  |  |   |  |   |  |   |   |  |
| <input type="checkbox"/> OPERATOR CHANGE   | <input type="checkbox"/> PLUG AND ABANDON   | <input type="checkbox"/> PLUG BACK   |                                  |                                       |  |   |  |   |   |   |  |                                 |   |   |  |   |                                    |   |   |   |  |   |  |  |  |   |  |   |  |   |   |  |
| <input type="checkbox"/> PRODUCTION START OR RESUME  | <input type="checkbox"/> RECLAMATION OF WELL SITE   | <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION                                |                                  |                                       |  |   |  |   |   |   |  |                                 |   |   |  |   |                                    |   |   |   |  |   |  |  |  |   |  |   |  |   |   |  |
| <input type="checkbox"/> REPERFORATE CURRENT FORMATION   | <input type="checkbox"/> SIDETRACK TO REPAIR WELL   | <input type="checkbox"/> TEMPORARY ABANDON   |                                  |                                       |  |   |  |   |   |   |  |                                 |   |   |  |   |                                    |   |   |   |  |   |  |  |  |   |  |   |  |   |   |  |
| <input type="checkbox"/> TUBING REPAIR   | <input type="checkbox"/> VENT OR FLARE  | <input type="checkbox"/> WATER DISPOSAL  |                                  |                                       |  |   |  |   |   |   |  |                                 |   |   |  |   |                                    |   |   |   |  |   |  |  |  |   |  |   |  |   |   |  |
| <input type="checkbox"/> WATER SHUTOFF   | <input type="checkbox"/> SI TA STATUS EXTENSION   | <input type="checkbox"/> APD EXTENSION   |                                  |                                       |  |   |  |   |   |   |  |                                 |   |   |  |   |                                    |   |   |   |  |   |  |  |  |   |  |   |  |   |   |  |
| <input type="checkbox"/> WILDCAT WELL DETERMINATION  | <input checked="" type="checkbox"/> OTHER   | OTHER: <span style="border: 1px solid black; padding: 2px;">RIG REL. - ACTS PIT</span> |                                  |                                       |  |   |  |   |   |   |  |                                 |   |   |  |   |                                    |   |   |   |  |   |  |  |  |   |  |   |  |   |   |  |
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| <b>NAME (PLEASE PRINT)</b><br>Jaime Scharnowske  |   | <b>PHONE NUMBER</b><br>720 929-6304  |                                  |                                       |  |   |  |   |   |   |  |                                 |   |   |  |   |                                    |   |   |   |  |   |  |  |  |   |  |   |  |   |   |  |
| <b>SIGNATURE</b><br>N/A  |   | <b>TITLE</b><br>Regulatory Analyst   |                                  |                                       |  |   |  |   |   |   |  |                                 |   |   |  |   |                                    |   |   |   |  |   |  |  |  |   |  |   |  |   |   |  |
| <b>DATE</b><br>11/8/2011   |   | <b>FOR RECORD ONLY</b>   |                                  |                                       |  |   |  |   |   |   |  |                                 |   |   |  |   |                                    |   |   |   |  |   |  |  |  |   |  |   |  |   |   |  |

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# Ensign 139  
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435- 828-0984  
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API Number 4304750636

Casing – Time casing run starts, not cementing times.

☒ Production Casing  
☐ Other

Date/Time 11/6/2011 08:00 AM ☒ PM ☐

BOPE

☐ Initial BOPE test at surface casing point  
☐ Other

Date/Time \_ \_ \_ \_ \_ AM ☐ PM ☐

RECEIVED

NOV 04 2011

DIV. OF OIL, GAS & MINING

Rig Move

Location To:

Date/Time \_ \_ \_ \_ \_ AM ☐ PM ☐

Remarks WILL RUN PROD CSG SUNDAY MORNING  
11/6/2011

## State of Utah - Notification Form

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Date/Time \_ \_ \_ \_ \_ AM ☐ PM ☐

RECEIVED

NOV 04 2011

DIV OF OIL, GAS & MINING

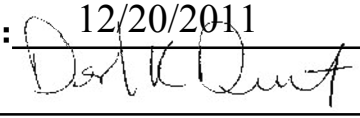
### Rig Move

Location To:

Date/Time \_ \_ \_ \_ \_ AM ☐ PM ☐

Remarks WILL RUN PROD CSG SUNDAY MORNING  
11/6/2011

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|   |   |   |
|---|---|---|
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| <b>2. NAME OF OPERATOR:</b><br>KERR-MCGEE OIL & GAS ONSHORE, L.P.   |   | <b>7. UNIT or CA AGREEMENT NAME:</b><br>NATURAL BUTTES                                |
| <b>3. ADDRESS OF OPERATOR:</b><br>P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779   |   | <b>8. WELL NAME and NUMBER:</b><br>NBU 1022-10M1DS                                    |
| <b>4. LOCATION OF WELL</b><br><b>FOOTAGES AT SURFACE:</b><br>0167 FSL 1765 FWL<br><b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b><br>Qtr/Qtr: SESW Section: 10 Township: 10.0S Range: 22.0E Meridian: S   |   | <b>9. API NUMBER:</b><br>43047506360000   |
| <b>PHONE NUMBER:</b><br>720 929-6515 Ext  |   | <b>9. FIELD and POOL or WILDCAT:</b><br>NATURAL BUTTES                                |
| <b>COUNTY:</b><br>UINTAH  |   | <b>STATE:</b><br>UTAH   |
| <b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>  |   |   |
| <b>TYPE OF SUBMISSION</b>   | <b>TYPE OF ACTION</b>   |   |
| <input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b><br>Approximate date work will start:<br>12/16/2011<br><br><input type="checkbox"/> <b>SUBSEQUENT REPORT</b><br>Date of Work Completion:<br><br><input type="checkbox"/> <b>SPUD REPORT</b><br>Date of Spud:<br><br><input type="checkbox"/> <b>DRILLING REPORT</b><br>Report Date:  | <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE<br/> <input type="checkbox"/> CHANGE TO PREVIOUS PLANS<br/> <input type="checkbox"/> CHANGE WELL STATUS<br/> <input type="checkbox"/> DEEPEN<br/> <input type="checkbox"/> OPERATOR CHANGE<br/> <input type="checkbox"/> PRODUCTION START OR RESUME<br/> <input type="checkbox"/> REPERFORATE CURRENT FORMATION<br/> <input type="checkbox"/> TUBING REPAIR<br/> <input type="checkbox"/> WATER SHUTOFF<br/> <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING<br/> <input type="checkbox"/> CHANGE TUBING<br/> <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS<br/> <input type="checkbox"/> FRACTURE TREAT<br/> <input type="checkbox"/> PLUG AND ABANDON<br/> <input type="checkbox"/> RECLAMATION OF WELL SITE<br/> <input type="checkbox"/> SIDETRACK TO REPAIR WELL<br/> <input type="checkbox"/> VENT OR FLARE<br/> <input type="checkbox"/> SI TA STATUS EXTENSION<br/> <input checked="" type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR<br/> <input type="checkbox"/> CHANGE WELL NAME<br/> <input type="checkbox"/> CONVERT WELL TYPE<br/> <input type="checkbox"/> NEW CONSTRUCTION<br/> <input type="checkbox"/> PLUG BACK<br/> <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION<br/> <input type="checkbox"/> TEMPORARY ABANDON<br/> <input type="checkbox"/> WATER DISPOSAL<br/> <input type="checkbox"/> APD EXTENSION         </div> </div> |   |
| <b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b><br>The operator requests approval for the attached well procedure. The subject well has been fracture stimulated but needs to be followed by a remedial cement squeeze. This well has been identified as requiring remediation and is currently being monitored and handled by our bradenhead best management practices. Thank you. |   |   |
| <b>Accepted by the Utah Division of Oil, Gas and Mining</b><br><br>Date: 12/20/2011<br>By:   |   | OTHER: <span style="border: 1px solid black; padding: 2px;">Cement Remediation</span> |
| <b>NAME (PLEASE PRINT)</b><br>Jaime Scharnowske   |   | <b>PHONE NUMBER</b><br>720 929-6304   |
| <b>SIGNATURE</b><br>N/A   |   | <b>TITLE</b><br>Regulatory Analyst  |
| <b>DATE</b><br>12/16/2011   |   |   |



# Greater Natural Buttes Unit



**NBU 1022-10M1DS**  
**COMPLETION AND CEMENT REMEDIATION PROCEDURE**

**DATE:11/21/11**  
**AFE#:2029038**  
**API#:4304750636**  
**USER ID:rachappe** (Frac Invoices Only)

**COMPLETIONS ENGINEER:** RACHAEL HILL, Denver, CO  
(720)-929-6599 (Office)  
(303) 907-9167 (Cell)

**SIGNATURE:**

**ENGINEERING MANAGER:** JEFF DUFRESNE

**SIGNATURE:**

**REMEMBER SAFETY FIRST!**

**Name:** **NBU 1022-10M1DS**  
**Location:** **SE NE SW SW SEC 10 T10S R22E**  
**LAT:** 39.956697 **LONG:** -109.429053 **COORDINATE:** NAD83 (*Surface Location*)  
**Uintah County, UT**  
**Date:** **11/21/11**

**ELEVATIONS:** 5094' GL 5108' KB *Frac Registry TVD: 8629'*

**TOTAL DEPTH:** 8785' **PBTD:** 8718'  
**SURFACE CASING:** 9 5/8", 40# J-55 LT&C @ 2237'  
**PRODUCTION CASING:** 4 1/2", 11.6#, I-80 BT&C @ 8763'

Marker Joint **4245-4259 & 6539-6562'**

**TUBULAR PROPERTIES:**

|                                  | BURST<br>(psi) | COLLAPSE<br>(psi) | DRIFT DIA.<br>(in.) | CAPACITIES |          |
|----------------------------------|----------------|-------------------|---------------------|------------|----------|
|                                  |                |                   |                     | (bbl/ft)   | (gal/ft) |
| 2 3/8" 4.7# J-55<br>tbg          | 7,700          | 8,100             | 1.901"              | 0.00387    | 0.1624   |
| 4 1/2" 11.6# I-80<br>(See above) | 7780           | 6350              | 3.875"              | 0.0155     | 0.6528   |
| 4 1/2" 11.6# P-<br>110           | 10691          | 7580              | 3.875"              | 0.0155     | 0.6528   |
| 2 3/8" by 4 1/2"<br>Annulus      |                |                   |                     | 0.0101     | 0.4227   |

**TOPS:**

972' Green River Top  
1286' Bird's Nest Top  
1660' Mahogany Top  
4279' Wasatch Top  
6538' Mesaverde Top

**BOTTOMS:**

6538' Wasatch Bottom  
8785' Mesaverde Bottom (TD)

**T.O.C.** @ 4602' from Schlumberger CBL 11/18/11

**GENERAL:**

- A minimum of **19** tanks (cleaned lined 500 bbl) of recycled water will be required. Note: Use biocide in tanks and the water needs to be at least 45°F at pump time.
- All perforation depths are from Halliburton's Induction-Density-Neutron log dated 11/6/11
- **8** fracturing stages required for coverage.
- Procedure calls for **8** CBP's (**8000** psi) .
- Calculate open perforations after each breakdown. If less than 60% of the perforations appear to be open, ball out with 15% HCl.
- Pump scale inhibitor at 3 gpt (in pad and until 1.25 ppg ramp up is reached) and 10 gpt in all flushes except the final stage. Remember to pre-load the casing with scale inhibitor for the very first stage with 10 gpt.
- 30/50 mesh Ottawa sand, **Slickwater frac.**
- Maximum surface pressure **7000 psi.**

- Flush volumes are the sum of slick water and acid used during displacement (include scale inhibitor as mentioned above). Stage acid and scale inhibitor if necessary to cover the next perforated interval.
- **If casing pressure test fails. MIRU with tubing and packer. Isolate leak by pressure testing above and below the packer. RIH and set appropriate casing leak remediation (specific details on remediation will be provided in post-job-report). Re-pressure test to 1000 and 3500 psi for 15 minutes each and to 7000 psi for 30 minutes.**
- **Call flush at 0 PPG @ inline densimeters. Slow to 5 bbl/min over last 10-20 bbls of flush. Flush to top perf.**
- **If distance between plug and top perf of previous stage is less than 50', it is considered to be tight spacing - over flush stage by 5 bbls (from top perf)**
- **TIGHT SPACING ON STAGE 5, 6 & 7- OVERFLUSH BY 5 BBLS**
- **Max Sand Concentration: Mesaverde 1 ppg**
- **Well has gas migration in-between the Surface 9-5/8 and Production 4-1/2". Perform remediation after frac job has finished**
- **CBL got to 8652, need to clean out to 8718**

#### **PROCEDURE:**

1. Monitor current gas flow and/or pressure building up on the surface casing to establish a buildup rate.
2. NU and test BOPs. RIH 3 7/8" mill and clean out to PBTD @ ~8718' at a minimum. Circulate hole clean with recycled water. POOH. Run CBL (if needed).
3. ND BOPs and NU frac valves. Test frac valves and casing to 1000 and 3500 psi for 15 minutes each and to **7000 psi** for 30 minutes; if pressure test fails contact Denver engineer and see notes. As per standard operating procedure install steel blowdown line to reserve pit from 4-1/2" X 9-5/8" annulus. Lock **OPEN** the Braden head valve. Annulus will be monitored throughout stimulation. If release occurs, stimulation will be shut down. Well conditions will be assessed and actions taken as necessary to secure the well. UDOGM will be notified if a release to the annulus occurs.
4. Perf the following with 3-3/8" gun, 23 gm, 0.36"hole:
 

| Zone      | From | To   | spf | # of shots |
|-----------|------|------|-----|------------|
| MESAVERDE | 8500 | 8501 | 4   | 4          |
| MESAVERDE | 8570 | 8571 | 4   | 4          |
| MESAVERDE | 8583 | 8584 | 4   | 4          |
| MESAVERDE | 8604 | 8606 | 4   | 8          |
| MESAVERDE | 8699 | 8700 | 4   | 4          |
5. Breakdown perfs and establish injection rate (include scale inhibitor in fluid). Spot 250 gals of 15% HCL and let soak 5-10 min. Fracture as outlined in Stage 1 on attached listing. Under-displace to ~8500' and trickle 250gal 15%HCL w/ scale inhibitor in flush.
6. Set 8000 psi CBP at ~8376'. Perf the following 3-3/8" gun, 23 gm, 0.36"hole:
 

| Zone      | From | To   | spf | # of shots |
|-----------|------|------|-----|------------|
| MESAVERDE | 8263 | 8264 | 4   | 4          |
| MESAVERDE | 8283 | 8284 | 4   | 4          |

|           |      |      |   |   |
|-----------|------|------|---|---|
| MESAVERDE | 8316 | 8318 | 4 | 8 |
| MESAVERDE | 8344 | 8346 | 4 | 8 |

7. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 2 on attached listing. Under-displace to ~8263' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

8. Set 8000 psi CBP at ~8021'. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:

| Zone      | From | To   | spf | # of shots |
|-----------|------|------|-----|------------|
| MESAVERDE | 7827 | 7829 | 4   | 8          |
| MESAVERDE | 7885 | 7887 | 4   | 8          |
| MESAVERDE | 7959 | 7960 | 4   | 4          |
| MESAVERDE | 7990 | 7991 | 4   | 4          |

9. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 3 on attached listing. Under-displace to ~7827' trickle 250gal 15%HCL w/ scale inhibitor in flush.

10. Set 8000 psi CBP at ~7707'. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:

| Zone      | From | To   | spf | # of shots |
|-----------|------|------|-----|------------|
| MESAVERDE | 7546 | 7547 | 4   | 4          |
| MESAVERDE | 7567 | 7568 | 4   | 4          |
| MESAVERDE | 7585 | 7586 | 4   | 4          |
| MESAVERDE | 7632 | 7633 | 4   | 4          |
| MESAVERDE | 7675 | 7677 | 4   | 8          |

11. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 4 on attached listing. Under-displace to ~7546' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

12. Set 8000 psi CBP at ~7472'. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:

| Zone      | From | To   | spf | # of shots |
|-----------|------|------|-----|------------|
| MESAVERDE | 7278 | 7280 | 4   | 8          |
| MESAVERDE | 7438 | 7442 | 4   | 16         |

13. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 5 on attached listing. Under-displace to ~7278' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

14. Set 8000 psi CBP at ~7235'. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:

| Zone      | From | To   | spf | # of shots |
|-----------|------|------|-----|------------|
| MESAVERDE | 7066 | 7067 | 4   | 4          |
| MESAVERDE | 7159 | 7161 | 4   | 8          |
| MESAVERDE | 7177 | 7179 | 4   | 8          |
| MESAVERDE | 7204 | 7205 | 4   | 4          |

15. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 6 on attached listing. Under-displace to ~7066' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

**NOTE: TIGHT SPACING THIS STAGE, OVERFLUSH BY 5BBLs**

16. Set 8000 psi CBP at ~7057'. Perf the following 3-3/8" gun, 23 gm, 0.36" hole:

| Zone      | From | To   | spf | # of shots |
|-----------|------|------|-----|------------|
| MESAVERDE | 6903 | 6905 | 4   | 8          |
| MESAVERDE | 6932 | 6933 | 4   | 4          |
| MESAVERDE | 6998 | 7000 | 4   | 8          |

MESAVERDE 7026 7027 4 4

17. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 7 on attached listing. Under-displace to ~6903' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

**NOTE: TIGHT SPACING THIS STAGE, OVERFLUSH BY 5BBLs**

18. Set 8000 psi CBP at ~6896'. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:

| Zone      | From | To   | spf | # of shots |
|-----------|------|------|-----|------------|
| MESAVERDE | 6779 | 6781 | 4   | 8          |
| MESAVERDE | 6804 | 6806 | 4   | 8          |
| MESAVERDE | 6832 | 6833 | 4   | 4          |
| MESAVERDE | 6865 | 6866 | 4   | 4          |

19. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 8 on attached listing. Under-displace to ~6779' and flush only with recycled water.

20. Set 8000 psi CBP at ~6729'. Call for tubing.

21. ND Frac Valves, NU and Test BOPs. Pressure test casing to 1,000 and 3,500 psi for 15 minutes each.

22. RIH and perf the following 3-3/8" gun, 23 gm, 0.36" hole:

| From | To   | spf | # of shots |
|------|------|-----|------------|
| 2245 | 2246 | 6   | 6          |

*\*\*See Attached CBL pages 11-13*

23. Establish injection rate into perforations

24. Monitor annulus between surface casing and 4-1/2" casing for communication. Based on communication results; perform desired cement squeeze.

25. RIH set CICR at **2200'**.

26. R/U cement company and pump recommended cement job into perforations from **2245 - 2246'**, based off injection rate and pressure. PUH w/stinger and cap with CICR with cement. Reverse circulate clean. WOC for a minimum 12 hours prior to drill out.

27. POOH. TIH with 3 7/8" bit, pump off sub, SN and tubing. D-O CICR and cement to ~ **2260'**. Pressure test casing and perforations to 1000 psi for 10 minutes. Also verify that there is no gas flow or pressure building up on the surface casing. Contact engineer if there is a test failure.

28. Drill plugs and clean out to PBTD. Shear off bit and land tubing at **±8233'** unless indicated otherwise by the well's behavior.

29. Clean out well with foam and/or swabbing unit until steady flow has been established from completion.

30. **Leave surface casing valve open.** Monitor and report any flow from surface casing. RDMO

**For design questions, please call**



**Rachael Hill, Denver, CO**  
**(720)-929-6599 (Office)**  
**(303) 907-9167 (Cell)**

**For field implementation questions, please call**  
**Jeff Samuels, Vernal, UT**  
**(435) 781-7046 (Office)**

**NOTES:**

**TIGHT SPACING ON STAGE 5, 6 & 7– OVERFLUSH BY 5 BBLs**

**Verify that the Braden head valve is locked OPEN.**

**Max Sand Concentration: Mesaverde 1 ppg**

**Well has gas migration in-between the Surface 9-5/8 and Production 4-1/2". Perform remediation after frac job has finished**

|                  |       |        |
|------------------|-------|--------|
| Total Stages     | 8     | stages |
| Last Stage Flush | 4,425 | gals   |

Service Company Supplied Chemicals - Job Totals

|                              |      |        |     |             |
|------------------------------|------|--------|-----|-------------|
| Friction Reducer             | 166  | gals @ | 0.5 | GPT         |
| Surfactant                   | 333  | gals @ | 1.0 | GPT         |
| Clay Stabilizer              | 333  | gals @ | 1.0 | GPT         |
| 15% Hcl                      | 2000 | gals @ | 250 | gal/stg     |
| Iron Control for acid        | 10   | gals @ | 5.0 | GPT of acid |
| Surfactant for acid          | 2    | gals @ | 1.0 | GPT of acid |
| Corrosion Inhibitor for acid | 4    | gals @ | 2.0 | GPT of acid |

Third Party Supplied Chemicals Job Totals - Include Pumping Charge if Applicable

|                 |     |                                |
|-----------------|-----|--------------------------------|
| Scale Inhibitor | 785 | gals pumped per schedule above |
| Biocide         | 166 | gals @ 0.5 GPT                 |



[illegible]

[illegible]

Name NBU 1022-10M1DS  
Perforation and CBP Summary

| Stage  | Zones            | Perforations |            | SPF | Holes |  | Fracture Coverage |       |        |
|--------|------------------|--------------|------------|-----|-------|--|-------------------|-------|--------|
|        |                  | Top, ft      | Bottom, ft |     |       |  |                   |       |        |
| 1      | MESAVERDE        | 8500         | 8501       | 4   | 4     |  | 8490              | to    | 8505.5 |
|        | MESAVERDE        | 8570         | 8571       | 4   | 4     |  | 8567.5            | to    | 8573   |
|        | MESAVERDE        | 8583         | 8584       | 4   | 4     |  | 8574.5            | to    | 8587.5 |
|        | MESAVERDE        | 8604         | 8606       | 4   | 8     |  | 8596              | to    | 8609   |
|        | MESAVERDE        | 8699         | 8700       | 4   | 4     |  | 8695              | to    | 8713   |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | # of Perfs/stage |              |            |     | 24    |  | CBP DEPTH         | 8,376 |        |
| 2      | MESAVERDE        | 8263         | 8264       | 4   | 4     |  | 8260.5            | to    | 8269   |
|        | MESAVERDE        | 8283         | 8284       | 4   | 4     |  | 8281              | to    | 8290.5 |
|        | MESAVERDE        | 8316         | 8318       | 4   | 8     |  | 8305              | to    | 8319.5 |
|        | MESAVERDE        | 8344         | 8346       | 4   | 8     |  | 8335.5            | to    | 8347.5 |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
| 3      | MESAVERDE        | 7827         | 7829       | 4   | 8     |  | 7818.5            | to    | 7830.5 |
|        | MESAVERDE        | 7885         | 7887       | 4   | 8     |  | 7884              | to    | 7890.5 |
|        | MESAVERDE        | 7959         | 7960       | 4   | 4     |  | 7935              | to    | 7993.5 |
|        | MESAVERDE        | 7990         | 7991       | 4   | 4     |  | 7935              | to    | 7993.5 |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
| 4      | MESAVERDE        | 7546         | 7547       | 4   | 4     |  | 7545              | to    | 7552   |
|        | MESAVERDE        | 7567         | 7568       | 4   | 4     |  | 7564              | to    | 7574   |
|        | MESAVERDE        | 7585         | 7586       | 4   | 4     |  | 7575              | to    | 7587   |
|        | MESAVERDE        | 7632         | 7633       | 4   | 4     |  | 7619              | to    | 7640   |
|        | MESAVERDE        | 7675         | 7677       | 4   | 8     |  | 7646              | to    | 7689.5 |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
| 5      | MESAVERDE        | 7278         | 7280       | 4   | 8     |  | 7264.5            | to    | 7282   |
|        | MESAVERDE        | 7438         | 7442       | 4   | 16    |  | 7408              | to    | 7444.5 |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
| 6      | MESAVERDE        | 7066         | 7067       | 4   | 4     |  | 7060.5            | to    | 7069.5 |
|        | MESAVERDE        | 7159         | 7161       | 4   | 8     |  | 7149              | to    | 7163.5 |
|        | MESAVERDE        | 7177         | 7179       | 4   | 8     |  | 7165.5            | to    | 7184.5 |
|        | MESAVERDE        | 7204         | 7205       | 4   | 4     |  | 7197.5            | to    | 7213.5 |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
| 7      | MESAVERDE        | 6903         | 6905       | 4   | 8     |  | 6894              | to    | 6906   |
|        | MESAVERDE        | 6932         | 6933       | 4   | 4     |  | 6924              | to    | 6935.5 |
|        | MESAVERDE        | 6998         | 7000       | 4   | 8     |  | 6994.5            | to    | 7001.5 |
|        | MESAVERDE        | 7026         | 7027       | 4   | 4     |  | 7025              | to    | 7037   |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
| 8      | MESAVERDE        | 6779         | 6781       | 4   | 8     |  | 6769.5            | to    | 6783   |
|        | MESAVERDE        | 6804         | 6806       | 4   | 8     |  | 6793.5            | to    | 6810   |
|        | MESAVERDE        | 6832         | 6833       | 4   | 4     |  | 6826.5            | to    | 6836   |
|        | MESAVERDE        | 6865         | 6866       | 4   | 4     |  | 6860              | to    | 6872   |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
|        | MESAVERDE        |              |            |     |       |  |                   |       |        |
| Totals | # of Perfs/stage |              |            |     | 24    |  | CBP DEPTH         | 6,729 |        |
|        |                  |              |            |     | 192   |  |                   |       |        |



**Schlumberger**

Company: KERR MCGEE OIL &amp; GAS ONSHORE LP

Well: NBU 1022-10M1DS

Field: GREATER NATURAL BUTTES

County: UTAH State: UTAH

## CEMENT BOND LOG

GAMMA RAY

COLLARS

167' FSL &amp; 1765' FWL

Elev.: K.B. 5108.00 ft

G.L. 5094.00 ft

D.F. 5107.00 ft

## LOCATION

Permanent Datum:

GROUND LEVEL

Elev.: 5094.00 ft

Log Measured From:

KELLY BUSHING

14.00 ft above Perm. Datum

Drilling Measured From:

KELLY BUSHING

County: UINTAH  
 Field: GREATER NATURAL BUTTES  
 Location: 167' FSL & 1765' FWL  
 Well: NBU 1022-10M1DS  
 Company: KERR MCGEE OIL & GAS ONSHORE LP

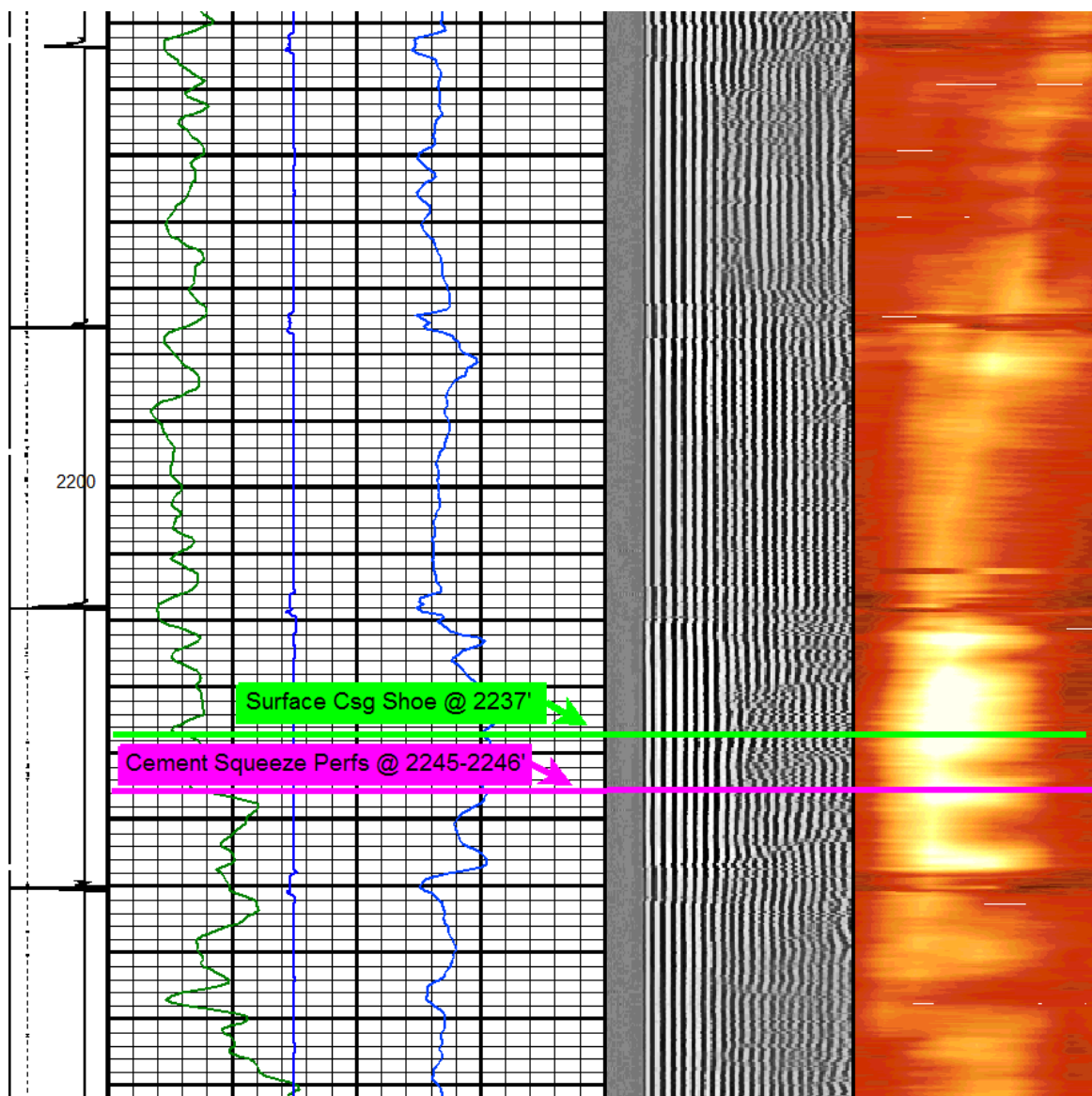
| API Serial No. | Section | Township | Range |
|----------------|---------|----------|-------|
| 43047506360000 | 10      | 10S      | 22E   |

## Logging Date

18-Nov-2011

|                               |              |
|-------------------------------|--------------|
| Run Number                    | 1            |
| Depth Driller                 | 8865 ft      |
| Schlumberger Depth            | 8852 ft      |
| Bottom Log Interval           | 8644 ft      |
| Top Log Interval              | 100 ft       |
| Casing Fluid Type             | WATER        |
| Salinity                      |              |
| Density                       | 8.4 lbm/gal  |
| Fluid Level                   | 45.9 ft      |
| BIT/CASING/TUBING STRING      |              |
| Bit Size                      | 7.875 in     |
| From                          | 45.9 ft      |
| To                            | 8865 ft      |
| Casing/Tubing Size            | 4.500 in     |
| Weight                        | 11.6 lbm/ft  |
| Grade                         |              |
| From                          | 45.9 ft      |
| To                            | 8852 ft      |
| Maximum Recorded Temperatures | 187 degF     |
| Logger On Bottom              | 18-Nov-2011  |
| Unit Number                   | 410          |
| Location                      | VERNAL       |
| Recorded By                   | SCOTT ROACH  |
| Witnessed By                  | JEFF SAMUELS |





|  |   |   |  |   |   |
|--|---|---|--|---|---|
| <b>STATE OF UTAH</b><br>DEPARTMENT OF NATURAL RESOURCES<br>DIVISION OF OIL, GAS, AND MINING  |   | <b>FORM 9</b>   |  |   |   |
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b><br><br>Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.   |   | <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b><br>UTU 01196C  |  |   |   |
| <b>1. TYPE OF WELL</b><br>Gas Well   |   | <b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  |  |   |   |
| <b>2. NAME OF OPERATOR:</b><br>KERR-MCGEE OIL & GAS ONSHORE, L.P.  |   | <b>7. UNIT or CA AGREEMENT NAME:</b><br>NATURAL BUTTES  |  |   |   |
| <b>3. ADDRESS OF OPERATOR:</b><br>P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779  |   | <b>8. WELL NAME and NUMBER:</b><br>NBU 1022-10M1DS  |  |   |   |
| <b>4. LOCATION OF WELL</b><br><b>FOOTAGES AT SURFACE:</b><br>0167 FSL 1765 FWL<br><b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b><br>Qtr/Qtr: SESW Section: 10 Township: 10.0S Range: 22.0E Meridian: S  |   | <b>9. API NUMBER:</b><br>43047506360000   |  |   |   |
| <b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>   |   | <b>9. FIELD and POOL or WILDCAT:</b><br>NATURAL BUTTES  |  |   |   |
| <b>TYPE OF SUBMISSION</b>  | <b>TYPE OF ACTION</b>   |   |  |   |   |
| <input type="checkbox"/> <b>NOTICE OF INTENT</b><br>Approximate date work will start:<br><br><input type="checkbox"/> <b>SUBSEQUENT REPORT</b><br>Date of Work Completion:<br><br><input type="checkbox"/> <b>SPUD REPORT</b><br>Date of Spud:<br><br><input checked="" type="checkbox"/> <b>DRILLING REPORT</b><br>Report Date:<br>1/4/2012   | <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE<br/> <input type="checkbox"/> CHANGE TO PREVIOUS PLANS<br/> <input type="checkbox"/> CHANGE WELL STATUS<br/> <input type="checkbox"/> DEEPEN<br/> <input type="checkbox"/> OPERATOR CHANGE<br/> <input checked="" type="checkbox"/> PRODUCTION START OR RESUME<br/> <input type="checkbox"/> REPERFORATE CURRENT FORMATION<br/> <input type="checkbox"/> TUBING REPAIR<br/> <input type="checkbox"/> WATER SHUTOFF<br/> <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING<br/> <input type="checkbox"/> CHANGE TUBING<br/> <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS<br/> <input type="checkbox"/> FRACTURE TREAT<br/> <input type="checkbox"/> PLUG AND ABANDON<br/> <input type="checkbox"/> RECLAMATION OF WELL SITE<br/> <input type="checkbox"/> SIDETRACK TO REPAIR WELL<br/> <input type="checkbox"/> VENT OR FLARE<br/> <input type="checkbox"/> SI TA STATUS EXTENSION<br/> <input type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR<br/> <input type="checkbox"/> CHANGE WELL NAME<br/> <input type="checkbox"/> CONVERT WELL TYPE<br/> <input type="checkbox"/> NEW CONSTRUCTION<br/> <input type="checkbox"/> PLUG BACK<br/> <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION<br/> <input type="checkbox"/> TEMPORARY ABANDON<br/> <input type="checkbox"/> WATER DISPOSAL<br/> <input type="checkbox"/> APD EXTENSION<br/>           OTHER: <input style="width: 100px;" type="text"/> </td> </tr> </table> |   | <input type="checkbox"/> ACIDIZE<br><input type="checkbox"/> CHANGE TO PREVIOUS PLANS<br><input type="checkbox"/> CHANGE WELL STATUS<br><input type="checkbox"/> DEEPEN<br><input type="checkbox"/> OPERATOR CHANGE<br><input checked="" type="checkbox"/> PRODUCTION START OR RESUME<br><input type="checkbox"/> REPERFORATE CURRENT FORMATION<br><input type="checkbox"/> TUBING REPAIR<br><input type="checkbox"/> WATER SHUTOFF<br><input type="checkbox"/> WILDCAT WELL DETERMINATION | <input type="checkbox"/> ALTER CASING<br><input type="checkbox"/> CHANGE TUBING<br><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS<br><input type="checkbox"/> FRACTURE TREAT<br><input type="checkbox"/> PLUG AND ABANDON<br><input type="checkbox"/> RECLAMATION OF WELL SITE<br><input type="checkbox"/> SIDETRACK TO REPAIR WELL<br><input type="checkbox"/> VENT OR FLARE<br><input type="checkbox"/> SI TA STATUS EXTENSION<br><input type="checkbox"/> OTHER | <input type="checkbox"/> CASING REPAIR<br><input type="checkbox"/> CHANGE WELL NAME<br><input type="checkbox"/> CONVERT WELL TYPE<br><input type="checkbox"/> NEW CONSTRUCTION<br><input type="checkbox"/> PLUG BACK<br><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION<br><input type="checkbox"/> TEMPORARY ABANDON<br><input type="checkbox"/> WATER DISPOSAL<br><input type="checkbox"/> APD EXTENSION<br>OTHER: <input style="width: 100px;" type="text"/> |
| <input type="checkbox"/> ACIDIZE<br><input type="checkbox"/> CHANGE TO PREVIOUS PLANS<br><input type="checkbox"/> CHANGE WELL STATUS<br><input type="checkbox"/> DEEPEN<br><input type="checkbox"/> OPERATOR CHANGE<br><input checked="" type="checkbox"/> PRODUCTION START OR RESUME<br><input type="checkbox"/> REPERFORATE CURRENT FORMATION<br><input type="checkbox"/> TUBING REPAIR<br><input type="checkbox"/> WATER SHUTOFF<br><input type="checkbox"/> WILDCAT WELL DETERMINATION | <input type="checkbox"/> ALTER CASING<br><input type="checkbox"/> CHANGE TUBING<br><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS<br><input type="checkbox"/> FRACTURE TREAT<br><input type="checkbox"/> PLUG AND ABANDON<br><input type="checkbox"/> RECLAMATION OF WELL SITE<br><input type="checkbox"/> SIDETRACK TO REPAIR WELL<br><input type="checkbox"/> VENT OR FLARE<br><input type="checkbox"/> SI TA STATUS EXTENSION<br><input type="checkbox"/> OTHER   | <input type="checkbox"/> CASING REPAIR<br><input type="checkbox"/> CHANGE WELL NAME<br><input type="checkbox"/> CONVERT WELL TYPE<br><input type="checkbox"/> NEW CONSTRUCTION<br><input type="checkbox"/> PLUG BACK<br><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION<br><input type="checkbox"/> TEMPORARY ABANDON<br><input type="checkbox"/> WATER DISPOSAL<br><input type="checkbox"/> APD EXTENSION<br>OTHER: <input style="width: 100px;" type="text"/> |  |   |   |
| <b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b><br>THE SUBJECT WELL WAS PLACED ON PRODUCTION ON JAN. 4, 2012 AT 1:00 P.M. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.  |   |   |  |   |   |
| <b>Accepted by the<br/>         Utah Division of<br/>         Oil, Gas and Mining<br/>         FOR RECORD ONLY</b><br>01/05/2012   |   |   |  |   |   |
| <b>NAME (PLEASE PRINT)</b><br>Jaime Scharnowske  |   | <b>PHONE NUMBER</b><br>720 929-6304   |  |   |   |
| <b>SIGNATURE</b><br>N/A  |   | <b>TITLE</b><br>Regulatory Analyst  |  |   |   |
| <b>DATE</b><br>1/5/2012  |   |   |  |   |   |

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: July 31, 2010

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

5. Lease Serial No.  
UTU01196C

|  |  |  |  |   |  |
|--|--|--|--|---|--|
| 1a. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Dry <input type="checkbox"/> Other  |  |  | 6. If Indian, Allottee or Tribe Name   |   |  |
| b. Type of Completion <input checked="" type="checkbox"/> New Well <input type="checkbox"/> Work Over <input type="checkbox"/> Deepen <input type="checkbox"/> Plug Back <input type="checkbox"/> Diff. Resvr.<br>Other _____  |  |  | 7. Unit or CA Agreement Name and No.<br>UTU63047A  |   |  |
| 2. Name of Operator<br>KERR MCGEE OIL & GAS ONSHORE, Mail: JAIME.SCHARNOWSKE@ANADARKO.COM  |  |  | 8. Lease Name and Well No.<br>NBU 1022-10M1DS  |   |  |
| 3. Address PO BOX 173779<br>DENVER, CO 80217   |  |  | 9. API Well No.<br>43-047-50636  |   |  |
| 4. Location of Well (Report location clearly and in accordance with Federal requirements)*<br>At surface    SESW 167FSL 1765FWL 39.956697 N Lat, 109.429053 W Lon<br>At top prod interval reported below    SWSW 820FSL 1025FWL<br>At total depth <u>DR</u> SWSW 798FSL 1028FWL <i>BHL by ITSM</i> |  |  | 10. Field and Pool, or Exploratory<br>NATURAL BUTTES   |   |  |
| 14. Date Spudded<br>08/23/2011   |  |  | 15. Date T.D. Reached<br>11/06/2011  |   |  |
| 16. Date Completed<br><input type="checkbox"/> D & A <input checked="" type="checkbox"/> Ready to Prod.<br>01/04/2012  |  |  | 17. Elevations (DF, KB, RT, GL)*<br>5094 GL  |   |  |
| 18. Total Depth:    MD    8785<br>TVD    8629  |  | 19. Plug Back T.D.:    MD    8719<br>TVD    8563 |  | 20. Depth Bridge Plug Set:    MD<br>TVD |  |
| 21. Type Electric & Other Mechanical Logs Run (Submit copy of each)<br>CBL/GR/COLLARS-BHV-SD/DSN/ACTR  |  |  | 22. Was well cored? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis)<br>Was DST run? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis)<br>Directional Survey? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (Submit analysis) |   |  |

23. Casing and Liner Record (Report all strings set in well)

| Hole Size | Size/Grade | Wt. (#/ft.) | Top (MD) | Bottom (MD) | Stage Cementer Depth | No. of Sk. & Type of Cement | Slurry Vol. (BBL) | Cement Top* | Amount Pulled |
|-----------|------------|-------------|----------|-------------|----------------------|-----------------------------|-------------------|-------------|---------------|
| 20.000    | 14.000 STL | 36.7        | 0        | 40          |                      | 28                          |                   |             |               |
| 12.250    | 9.625 J-55 | 40.0        | 0        | 2237        |                      | 675                         |                   | 0           |               |
| 7.875     | 4.500 I-80 | 11.6        | 0        | 8763        |                      | 1682                        |                   | 4602        |               |
|           |            |             |          |             |                      |                             |                   |             |               |
|           |            |             |          |             |                      |                             |                   |             |               |
|           |            |             |          |             |                      |                             |                   |             |               |
|           |            |             |          |             |                      |                             |                   |             |               |

24. Tubing Record

| Size  | Depth Set (MD) | Packer Depth (MD) | Size | Depth Set (MD) | Packer Depth (MD) | Size | Depth Set (MD) | Packer Depth (MD) |
|-------|----------------|-------------------|------|----------------|-------------------|------|----------------|-------------------|
| 2.375 | 8234           |                   |      |                |                   |      |                |                   |

25. Producing Intervals

26. Perforation Record

| Formation        | Top  | Bottom | Perforated Interval | Size  | No. Holes | Perf. Status |
|------------------|------|--------|---------------------|-------|-----------|--------------|
| A) MESAVERDE     | 6779 | 8700   | 6779 TO 8700        | 0.360 | 192       | OPEN         |
| B) <i>Wismud</i> |      |        |                     |       |           |              |
| C)               |      |        |                     |       |           |              |
| D)               |      |        |                     |       |           |              |

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

| Depth Interval | Amount and Type of Material                               |
|----------------|---|
| 6779 TO 8700   | PUMP 8,961 BBLs SLICK H2O & 169,683 LBS 30/50 OTTAWA SAND |
|                |   |
|                |   |
|                |   |

28. Production - Interval A

| Date First Produced | Test Date            | Hours Tested | Test Production | Oil BBL | Gas MCF | Water BBL | Oil Gravity Corr. API | Gas Gravity | Production Method |
|---------------------|----------------------|--------------|-----------------|---------|---------|-----------|-----------------------|-------------|-------------------|
| 01/04/2012          | 01/07/2012           | 24           | →               | 0.0     | 695.0   | 432.0     |                       |             | FLows FROM WELL   |
| Choke Size          | Tbg. Press. Flwg. SI | Csg. Press.  | 24 Hr. Rate     | Oil BBL | Gas MCF | Water BBL | Gas:Oil Ratio         | Well Status |                   |
| 20/64               | 268                  | 603.0        | →               | 0       | 695     | 432       |                       | PGW         |                   |

28a. Production - Interval B

| Date First Produced | Test Date            | Hours Tested | Test Production | Oil BBL | Gas MCF | Water BBL | Oil Gravity Corr. API | Gas Gravity | Production Method |
|---------------------|----------------------|--------------|-----------------|---------|---------|-----------|-----------------------|-------------|-------------------|
|                     |                      |              | →               |         |         |           |                       |             |                   |
| Choke Size          | Tbg. Press. Flwg. SI | Csg. Press.  | 24 Hr. Rate     | Oil BBL | Gas MCF | Water BBL | Gas:Oil Ratio         | Well Status |                   |
|                     |                      |              | →               |         |         |           |                       |             |                   |

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #130965 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

**\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\***

**RECEIVED**

**FEB 21 2012**



## 28b. Production - Interval C

| Date First Produced | Test Date            | Hours Tested | Test Production | Oil BBL | Gas MCF | Water BBL | Oil Gravity Corr. API | Gas Gravity | Production Method |
|---------------------|----------------------|--------------|-----------------|---------|---------|-----------|-----------------------|-------------|-------------------|
|                     |                      |              | →               |         |         |           |                       |             |                   |
| Choke Size          | Tbg. Press. Flwg. SI | Csg. Press.  | 24 Hr. Rate     | Oil BBL | Gas MCF | Water BBL | Gas:Oil Ratio         | Well Status |                   |
|                     |                      |              | →               |         |         |           |                       |             |                   |

## 28c. Production - Interval D

| Date First Produced | Test Date            | Hours Tested | Test Production | Oil BBL | Gas MCF | Water BBL | Oil Gravity Corr. API | Gas Gravity | Production Method |
|---------------------|----------------------|--------------|-----------------|---------|---------|-----------|-----------------------|-------------|-------------------|
|                     |                      |              | →               |         |         |           |                       |             |                   |
| Choke Size          | Tbg. Press. Flwg. SI | Csg. Press.  | 24 Hr. Rate     | Oil BBL | Gas MCF | Water BBL | Gas:Oil Ratio         | Well Status |                   |
|                     |                      |              | →               |         |         |           |                       |             |                   |

29. Disposition of Gas(Sold, used for fuel, vented, etc.)  
SOLD

## 30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

## 31. Formation (Log) Markers

| Formation | Top | Bottom | Descriptions, Contents, etc. | Name        | Top         |
|-----------|-----|--------|------------------------------|-------------|-------------|
|           |     |        |                              |             | Meas. Depth |
|           |     |        |                              | GREEN RIVER | 972         |
|           |     |        |                              | BIRD'S NEST | 1286        |
|           |     |        |                              | MAHOGANY    | 1660        |
|           |     |        |                              | WASATCH     | 4279        |
|           |     |        |                              | MESAVERDE   | 6538        |

## 32. Additional remarks (include plugging procedure):

Attached is the chronological well history, perforation report & final survey.  
Cement Squeeze from 2245-2246. Remedial cement work sundry approved by BLM 12/20/11.

## 33. Circle enclosed attachments:

- |   |                    |               |                       |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.)     | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis   | 7. Other:     |                       |

## 34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

**Electronic Submission #130965 Verified by the BLM Well Information System.**  
**For KERR MCGEE OIL & GAS ONSHORE,L, sent to the Vernal**

Name (please print) JAIME L. SCHARNOWSKETitle REGULATORY ANALYST

Signature \_\_\_\_\_ (Electronic Submission)

Date 02/15/2012

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**\*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\***

**US ROCKIES REGION**  
**Operation Summary Report**

|  |  |  |  |                      |   |
|--|--|--|--|----------------------|---|
| Well: NBU 1022-10M1DS GREEN                            |  | Spud Conductor: 8/23/2011                              |  | Spud Date: 9/17/2011 |   |
| Project: UTAH-UINTAH                                   |  | Site: NBU 1022-10N PAD                                 |  |                      | Rig Name No: ENSIGN 139/139, PROPETRO 11/11 |
| Event: DRILLING  |  | Start Date: 5/26/2011                                  |  | End Date: 11/7/2011  |   |
| Active Datum: RKB @5,108.00usft (above Mean Sea Level) |  | UWI: SE/SW/0/10/S/22/E/10/0/0/26/PM/S/167/W/0/1765/0/0 |  |                      |   |

| Date      | Time Start-End | Duration (hr) | Phase  | Code | Sub Code | P/U | MD From (usft) | Operation   |
|-----------|----------------|---------------|--------|------|----------|-----|----------------|---|
| 9/16/2011 | 18:00 - 0:00   | 6.00          | DRLSUR | 01   | B        | P   |                | DRESS CONDUCTOR, R/U FLOW NIPPLE & BLOOIE LINE, SPOT RIG & RIG UP PERPAIR TO SPUD 12.25 SURFACE HOLE.   |
| 9/17/2011 | 0:00 - 1:00    | 1.00          | DRLSUR | 01   | B        | P   |                | DRESS CONDUCTOR, R/U FLOW NIPPLE & BLOOIE LINE, SPOT RIG & RIG UP PERPAIR TO SPUD 12.25 SURFACE HOLE.   |
|           | 1:00 - 1:30    | 0.50          | DRLSUR | 08   | A        | Z   |                | MUD PUMP DOWN LEAK IN GEAR BOX.   |
|           | 1:30 - 2:00    | 0.50          | DRLSUR | 06   | A        | P   |                | SPUD SURFACE 09/17/2011 @ 02:00 HRS. DRILL 12 1/4" SURFACE HOLE F/40'-210' (170' @ 113'/HR) PSI ON/ OFF 750/500, UP/ DOWN/ ROT 27/22/25. 532 GPM, 45 RPM ON TOP DRIVE, 15-18K WOB |
|           | 2:00 - 5:00    | 3.00          | DRLSUR | 06   | A        | P   |                | TRIP OUT OF HOLE P/U DIR TOOLS SCRIB M/M.   |
|           | 5:00 - 6:00    | 1.00          | DRLSUR | 06   | A        | P   |                | TIH F/40'-210'  |
|           | 6:00 - 14:00   | 8.00          | DRLSUR | 08   | A        | Z   |                | CHANGE OUT WASH PIPE AND WELD CRACK ON GEAR BOX ON M/P.   |
|           | 14:00 - 21:00  | 7.00          | DRLSUR | 02   | B        | P   |                | DRILL 12 1/4" SURFACE HOLE 210' TO 800'(590' @ 84'/HR) PSI ON/ OFF 750/500, UP/ DOWN/ ROT 27/22/25. 532 GPM, 45 RPM ON TOP DRIVE, 15-18K WOB                                      |
|           | 21:00 - 22:30  | 1.50          | DRLSUR | 08   | A        | Z   |                | LAY RIG OVER CHANGE OUT UNION ON PACKING HOUSEING ON TOP DRIVE  |
|           | 22:30 - 0:00   | 1.50          | DRLSUR | 02   | B        | P   |                | DRILL 12 1/4" SURFACE HOLE 800' TO 920' 120' @ 80'/HR) PSI ON/ OFF 1200/1100, UP/ DOWN/ ROT 55/45/50. 532 GPM, 45 RPM ON TOP DRIVE, 15-18K WOB                                    |
|           |                |               |        |      |          |     |                |   |
| 9/18/2011 | 0:00 - 4:30    | 4.50          | DRLSUR | 02   | B        | P   |                | DRILL 12 1/4" SURFACE HOLE 920' TO 1130' 210' @ 46'/HR) PSI ON/ OFF 1250/1120, UP/ DOWN/ ROT 59/47/50. 532 GPM, 45 RPM ON TOP DRIVE, 15-18K WOB                                   |
|           | 4:30 - 20:00   | 15.50         | DRLSUR | 02   | B        | P   |                | DRILL 12 1/4" SURFACE HOLE F / 1130' TO 2060 / 930' @ 60'/HR) PSI ON/ OFF 1470/1350, UP/ DOWN/ ROT 59/47/50. 532 GPM, 45 RPM ON TOP DRIVE, 15-18K WOB                             |
|           | 20:00 - 0:00   | 4.00          | DRLSUR | 02   | B        | P   |                | DRILL 12 1/4" SURFACE HOLE F / 2060' TO 2263 / 203' @ 50'/HR) PSI ON/ OFF 1780/1610, UP/ DOWN/ ROT 80/52/68. 532 GPM, 45 RPM ON TOP DRIVE, 15-18K WOB                             |
| 9/19/2011 | 0:00 - 2:00    | 2.00          | DRLSUR | 05   | C        | P   |                | CIRC HOLE CLEAN   |
|           | 2:00 - 6:30    | 4.50          | DRLSUR | 06   | D        | P   |                | LDDP, DIR TOOLS, MOTOR, BIT   |
|           | 6:30 - 8:00    | 1.50          | DRLSUR | 12   | A        | P   |                | PREP F/ RUNNING CASING, MOVE CASING INTO WORK AREA  |
|           | 8:00 - 10:00   | 2.00          | DRLSUR | 12   | C        | P   |                | HOLD SAFTEY MEETING, RUN FLOAT SHOE, SHOE JNT, BAFFLE & 52 JNTS 9 5/8" 40# LT&C CSG W/THE SHOE SET @2223' & THE BAFFLE @2176.90   |
|           | 10:00 - 12:30  | 2.50          | DRLSUR | 12   | C        | X   |                | TAGED @ 1584 WASHED TO 1460 / NO RETURNS. BLEW HYD LINE ON RIG R/U PRO PETRO CEMTERS PUMP @ 1 BBL MIN.  |
|           | 12:30 - 20:00  | 7.50          | DRLSUR | 08   | A        | Z   |                | TAKE OFF OLD HYD LINES WAIT ON NEW ONES /TIGHTEN UNION FOR PACKING ON TOP DRIVE/ REPLACE HYD LINES  |

**US ROCKIES REGION**  
**Operation Summary Report**

|  |  |  |  |   |  |
|--|--|--|--|---|--|
| Well: NBU 1022-10M1DS GREEN                            |  | Spud Conductor: 8/23/2011                              |  | Spud Date: 9/17/2011                        |  |
| Project: UTAH-UINTAH                                   |  | Site: NBU 1022-10N PAD                                 |  | Rig Name No: ENSIGN 139/139, PROPETRO 11/11 |  |
| Event: DRILLING  |  | Start Date: 5/26/2011                                  |  | End Date: 11/7/2011                         |  |
| Active Datum: RKB @5,108.00usft (above Mean Sea Level) |  | UWI: SE/SW/0/10/S/22/E/10/0/0/26/PM/S/167/W/0/1765/0/0 |  |   |  |

| Date       | Time<br>Start-End | Duration<br>(hr) | Phase  | Code | Sub<br>Code | P/U | MD From<br>(usft) | Operation   |
|------------|-------------------|------------------|--------|------|-------------|-----|-------------------|---|
| 9/20/2011  | 20:00 - 23:00     | 3.00             | DRLSUR | 12   | C           | P   |                   | WORKED THROUGH BRIDGE PUMPED 44.00 FEET TO BOTTOM, LAND CASING. @2223   |
|            | 23:00 - 0:00      | 1.00             | DRLSUR | 12   | A           | P   |                   | RUN 200' 1" PIPE DOWN ANNULUS, MOVE RIG OFF, INSTALL CEMENT HEAD, R/U PRO PETRO CEMENTERS   |
|            | 0:00 - 2:30       | 2.50             | DRLSUR | 12   | E           | P   |                   | SAFETY MEETING W/ PROPETRO, R/U & PUMP 150 BBLS WATER, 20 BBLS GEL, 300 SX ( 61.4 BBLS ) 15.8#, 1.15 YLD TAIL, DROP PLUG ON FLY, DISPLACE W/ 164 BBLS WATER, FINAL LIFT 250, BUMP PLUG @ 800, FLOAT HELD, NO RETURNS THROUGH OUT JOB, PUMP 1ST TOP OUT DOWN 1" W/150 SX ( 30.7 BBLS) 15.8#, 1.15 YLD 4% CACL2, 1/4 SK FLOCELE, NO CEMENT TO SURFACE |
|            | 2:30 - 6:00       | 3.50             | DRLSUR | 12   | E           | P   |                   | TOP OUT DOWN BACK SIDE ( TWO TIMES ) WITH / 100 / 125 SKS 15.8 PPG, CLASS "G" CEMENT W/4% CACL2 & 1/4#SK FLOCELE, CEMENT TO SURF, NO CEMENT TO SURFACE. RELEASED RIG @ 06:00 9/19/2011  |
| 10/31/2011 | 6:00 - 13:00      | 7.00             | MIRU   | 01   | C           | P   |                   | WALK RIG BACK 40', REMOVE MATS DIRT WORK ,SKID ON WELL,CENTER & LEVEL RIG, SET IN CATWLAK   |
|            | 13:00 - 14:00     | 1.00             | MIRU   | 14   | B           | P   |                   | SET BOP DOWN ,NUBOP,  |
|            | 14:00 - 16:30     | 2.50             | MIRU   | 01   | B           | P   |                   | RURT,FLOOR,FLARE,FLOW,MUD LINES   |
|            | 16:30 - 18:30     | 2.00             | PRPSPD | 09   | A           | P   |                   | CUT & SLIP DRLG LINE  |
| 11/1/2011  | 18:30 - 20:30     | 2.00             | PRPSPD | 01   | B           | S   |                   | PUT SAFETY CHAINS ON FLOW LINES,FILL PITS,R/U GERONIMO LINE   |
|            | 20:30 - 0:00      | 3.50             | PRPSPD | 15   | A           | P   |                   | TEST BOP, RAMS ,CHOKE, KILLLINE, MANIFOLD TO 5K, ANNULAR 2.5K, CSG 1500 ,250 LOWS   |
|            | 0:00 - 1:30       | 1.50             | PRPSPD | 15   | A           | P   |                   | FINISH BOP TEST 5K, 2.5K 1.5K   |
|            | 1:30 - 2:30       | 1.00             | PRPSPD | 07   | A           | P   |                   | CHANGE OIL IN TOPDRIVE  |
|            | 2:30 - 3:00       | 0.50             | PRPSPD | 14   | A           | P   |                   | INSTALL WEARRING  |
|            | 3:00 - 7:00       | 4.00             | PRPSPD | 06   | A           | P   |                   | P/U BHA#1, SCRIBE DIR TOOLS TIH 2130'   |
|            | 7:00 - 8:00       | 1.00             | PRPSPD | 02   | F           | P   |                   | DRILL CEMENT & SHOE TRACK F/ 2130 TO 2273'  |
|            | 8:00 - 12:30      | 4.50             | DRLPRO | 02   | D           | P   |                   | DIR DRILL F/ 2273' TO 2666 =393' AVG 87 FPH ,WOB 18/20,RPM 40/126,STKS 120,GPM 590,PSI 1300/1700 TORQ 5/7K - SLIDE 145 @37 % - W/ RES WATER   |
|            | 12:30 - 13:00     | 0.50             | DRLPRO | 07   | A           | P   |                   | RIG SERVICE   |
|            | 13:00 - 0:00      | 11.00            | DRLPRO | 02   | D           | P   |                   | DIR DRILL F/2666 TO 3930 =1264' AVG115 FPH ,WOB 18/20,RPM 40/126,STKS 120,GPM 590,PSI 1300/1700 TORQ 5/7K - SLIDE 141 @ 11% - W/ RES WATER  |
| 11/2/2011  | 0:00 - 12:00      | 12.00            | DRLPRO | 02   | D           | P   |                   | DIR DRILL F/3930 TO 5202 =1272 AVG 106 FPH ,WOB 20,RPM 40/126,STKS 120,GPM 590,PSI 1700/2050 TORQ 8/10K - SLIDE 40 @ 3% - W/ RES WATER  |
|            | 12:00 - 12:30     | 0.50             | DRLPRO | 07   | A           | P   |                   | RIG SERVICE   |
|            | 12:30 - 0:00      | 11.50            | DRLPRO | 02   | D           | P   |                   | DIR DRILL F/5202 TO 6190 =988 AVG 86 FPH ,WOB 20,RPM 40/126,STKS 120,GPM 590,PSI 1700/2050 TORQ 8/10K - SLIDE 20 @ 2% - W/ RES WATER  |

**US ROCKIES REGION**  
**Operation Summary Report**

|  |  |   |  |   |  |
|--|--|---|--|---|--|
| Well: NBU 1022-10M1DS GREEN                            |  | Spud Conductor: 8/23/2011                             |  | Spud Date: 9/17/2011                        |  |
| Project: UTAH-UINTAH                                   |  | Site: NBU 1022-10N PAD                                |  | Rig Name No: ENSIGN 139/139, PROPETRO 11/11 |  |
| Event: DRILLING  |  | Start Date: 5/26/2011                                 |  | End Date: 11/7/2011                         |  |
| Active Datum: RKB @5,108.00usft (above Mean Sea Level) |  | UWI: SE/SW0/10/S/22/E/10/0/0/26/PM/S/167/W/0/1765/0/0 |  |   |  |

| Date      | Time<br>Start-End | Duration<br>(hr) | Phase  | Code | Sub<br>Code | P/U | MD From<br>(usft) | Operation   |
|-----------|-------------------|------------------|--------|------|-------------|-----|-------------------|---|
| 11/3/2011 | 0:00 - 12:30      | 12.50            | DRLPRO | 02   | D           | P   |                   | DIR DRILL F/6190 to 6921 =731 AVG 58 FPH ,WOB 20,RPM 40/126,STKS 120,GPM 590,PSI 1900/2250TORQ 8/10K - SLIDE 0'@ 0% - MW10.0 /38  |
|           | 12:30 - 13:00     | 0.50             | DRLPRO | 07   | A           | P   |                   | RIG SERVICE   |
|           | 13:00 - 0:00      | 11.00            | DRLPRO | 02   | D           | P   |                   | DIR DRILL F/6921 TO 7470=549 AVG 50 FPH ,WOB 20,RPM 40/120,STKS 110,GPM 540,PSI 1900/2250TORQ 8/10K - SLIDE 40'@ 7% - MW10.4 /38  |
| 11/4/2011 | 0:00 - 15:00      | 15.00            | DRLPRO | 02   | D           | P   |                   | DIR DRILL F/7470 TO 8095=625 AVG 41 FPH ,WOB 20,RPM 40/120,STKS 110,GPM 540,PSI 1900/2250TORQ 8/10K - SLIDE 0% - MW11.2 /42   |
|           | 15:00 - 15:30     | 0.50             | DRLPRO | 07   | A           | P   |                   | RIG SERVICE   |
|           | 15:30 - 23:00     | 7.50             | DRLPRO | 02   | D           | P   |                   | DIR DRILL F/8095 TO 8188 =93 AVG 12 FPH ,WOB 20,RPM 40/120,STKS 96,GPM 472,PSI 1900/2250TORQ 11/13K - SLIDE 0% - MW11.7 /41   |
| 11/5/2011 | 23:00 - 0:00      | 1.00             | DRLPRO | 06   | A           | P   |                   | PUMP OUT STNDS,TRIP F/BIT & MUD MTR   |
|           | 0:00 - 9:00       | 9.00             | DRLPRO | 06   | A           | P   |                   | TOOH W/BIT #1,CHANGE BIT & MTR,MTR LOCKED UP & WOULD NOT DRAIN,BIT RUNGOUT,DBR RIG SERVICE  |
|           | 9:00 - 9:30       | 0.50             | DRLPRO | 07   | A           | P   |                   | SCRIBE BHA#2,TIH CHECK CIRC@1000',5200',  |
|           | 9:30 - 17:30      | 8.00             | DRLPRO | 06   | A           | P   |                   | WASH & REAM F/8101 TO 8188,NO OUT OF GAUGE HOLE   |
|           | 17:30 - 18:00     | 0.50             | DRLPRO | 03   | D           | P   |                   |   |
| 11/6/2011 | 18:00 - 0:00      | 6.00             | DRLPRO | 02   | D           | P   |                   | DIR DRILL F/8188 TO 8550 =362 AVG 90 FPH ,WOB 20,RPM 40/70,STKS 90,GPM 442,PSI 2000/TORQ 11/13K - SLIDE 0% - MW12.2 /42   |
|           | 0:00 - 2:30       | 3.50             | DRLPRO | 02   | D           | P   |                   | DIR DRILL F/ 8550 TO TD8785 =235 AVG 94 FPH ,WOB 20,RPM 40/70,STKS 90,GPM 442,PSI 2000/TORQ 11/13K - SLIDE 0% - MW12.4+ /42   |
|           | 2:30 - 3:30       | 1.00             | DRLPRO | 05   | C           | P   |                   | CIRC BTMS UP ,NO FLARE/NO FLOW  |
|           | 3:30 - 6:00       | 2.50             | DRLPRO | 06   | E           | P   |                   | SHORTTRIP OUT TO 7926',TIH WASH 90' TO BTM,PUMP OUT 8 STNDS   |
|           | 6:00 - 19:30      | 13.50            | DRLPRO | 05   | C           | P   |                   | PUMP OUT 6 STNDS TO 8290',PUMP DRY PILL,LDDP & BHA & DIR TOOLS  |
| 11/7/2011 | 19:30 - 20:00     | 0.50             | EVALPR | 14   | A           | P   |                   | PULL WEARRING   |
|           | 20:00 - 0:00      | 4.00             | EVALPR | 11   | D           | P   |                   | TRIPLE COMBO W/ HALLIBURTON LOGGERS DEPTH 8779  |
|           | 0:00 - 1:30       | 1.50             | EVALPR | 11   | D           | P   |                   | TRIPLE COMBO TO LOGGERS DEPTH 8779  |
|           | 1:30 - 10:00      | 8.50             | CSG    | 12   | C           | P   |                   | RUN 207JTS& 2 MARKERS TO SHOE DEPTH 8776,FC 8733,MARKERS 6579/4277'   |
|           | 10:00 - 11:30     | 1.50             | CSG    | 05   | D           | P   |                   | SAFETY MEET W/ BJ,CIRC BTMS UP WITH RIG PUMP NO FLARE,MIX 28 BBL WEIGHTED SPACER W/BJ CEMENT W/BJ,DROP BTM PLUG PUMP 28BBLs 12.4# SPACER,624SX LEAD @12.9# 1.8 YLD,1058SX TAIL 14.3# 1.31 YLD,DROP TOPPLUG,DISPLACE 136 BBL,,FINALLIFT 2750,BUMPPLUG 3340,FLOATS HELD,56 BBLs LEAD BAC TO RES PIT |
| 11/7/2011 | 14:30 - 15:30     | 1.00             | RDMO   | 14   | A           | P   |                   | FLUSH BOP,SET C-22 CSG SLIPS@ 95 K,NDBOP AND RUFF CUT CSG   |
|           | 15:30 - 18:00     | 2.50             | RDMO   | 01   | E           | P   |                   | CLEAN PITS,RIG RELEASE@ 18:00 11/7/2011   |

## 1 General

### 1.1 Customer Information

|                |                   |
|----------------|-------------------|
| Company        | US ROCKIES REGION |
| Representative |                   |
| Address        |                   |

### 1.2 Well/Wellbore Information

|              |   |               |  |
|--------------|---|---------------|--|
| Well         | NBU 1022-10M1DS GREEN                             | Wellbore No.  | OH                                       |
| Well Name    | NBU 1022-10M1DS                                   | Wellbore Name | NBU 1022-10M1DS                          |
| Report No.   | 1   | Report Date   | 11/28/2011                               |
| Project      | UTAH-UINTAH                                       | Site          | NBU 1022-10N PAD                         |
| Rig Name/No. |   | Event         | COMPLETION                               |
| Start Date   | 12/22/2011  | End Date      | 1/4/2012                                 |
| Spud Date    | 9/17/2011   | Active Datum  | RKB @5,108.00usft (above Mean Sea Level) |
| UWI          | SE/SW/0/10/S/22/E/10/0/0/26/PM/S/167/W/0/1765/0/0 |               |  |

### 1.3 General

|                     |                      |                 |           |            |          |
|---------------------|----------------------|-----------------|-----------|------------|----------|
| Contractor          | CASED HOLE SOLUTIONS | Job Method      | PERFORATE | Supervisor | ED GUDAC |
| Perforated Assembly | PRODUCTION CASING    | Conveyed Method | WIRELINE  |            |          |

### 1.4 Initial Conditions

|                   |         |                    |  |                  |                               |                          |              |
|-------------------|---------|--------------------|--|------------------|-------------------------------|--------------------------|--------------|
| Fluid Type        |         | Fluid Density      |  | Gross Interval   | 6,779.0 (usft)-8,700.0 (usft) | Start Date/Time          |              |
| Surface Press     |         | Estimate Res Press |  | No. of Intervals | 32                            | End Date/Time            |              |
| TVD Fluid Top     |         | Fluid Head         |  | Total Shots      | 192                           | Net Perforation Interval | 48.00 (usft) |
| Hydrostatic Press |         | Press Difference   |  | Avg Shot Density | 4.00 (shot/ft)                | Final Surface Pressure   |              |
| Balance Cond      | NEUTRAL |                    |  |                  |                               | Final Press Date         |              |

### 1.5 Summary

## 2 Intervals

### 2.1 Perforated Interval

| Date | Formation/<br>Reservoir | CCL@<br>(usft) | CCL-T<br>S<br>(usft) | MD Top<br>(usft) | MD Base<br>(usft) | Shot<br>Density<br>(shot/ft) | Misfires/<br>Add. Shot | Diameter<br>(in) | Carr Type /Carr Manuf | Carr<br>Size<br>(in) | Phasing<br>(°) | Charge Desc /Charge<br>Manufacturer | Charge<br>Weight<br>(gram) | Reason           | Misrun |
|------|-------------------------|----------------|----------------------|------------------|-------------------|------------------------------|------------------------|------------------|-----------------------|----------------------|----------------|-------------------------------------|----------------------------|------------------|--------|
|      | MESAVERDE/              |                |                      | 6,779.0          | 6,781.0           | 4.00                         |                        | 0.360            | EXP/                  | 3.375                | 90.00          |                                     |                            | 23.00 PRODUCTION |        |
|      |                         |                |                      |                  |                   |                              |                        |                  |                       |                      |                |                                     |                            | N                |        |

## 2.1 Perforated Interval (Continued)

| Date | Formation/<br>Reservoir | CCL@<br>(usft) | CCL-T<br>S<br>(usft) | MD Top<br>(usft) | MD Base<br>(usft) | Shot<br>Density<br>(shot/ft) | Misfires/<br>Add. Shot | Diamete<br>r<br>(in) | Carr Type /Carr Manuf | Carr<br>Size<br>(in) | Phasing<br>(°) | Charge Desc /Charge<br>Manufacturer | Charge<br>Weight<br>(gram) | Reason         | Misrun |
|------|-------------------------|----------------|----------------------|------------------|-------------------|------------------------------|------------------------|----------------------|-----------------------|----------------------|----------------|-------------------------------------|----------------------------|----------------|--------|
|      | MESAVERDE/              |                |                      | 6,804.0          | 6,806.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 6,832.0          | 6,833.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 6,865.0          | 6,866.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 6,903.0          | 6,905.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 6,932.0          | 6,933.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 6,998.0          | 7,000.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 7,026.0          | 7,027.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 7,066.0          | 7,067.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 7,159.0          | 7,161.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 7,177.0          | 7,179.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 7,204.0          | 7,205.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 7,278.0          | 7,280.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 7,438.0          | 7,442.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 7,546.0          | 7,547.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 7,567.0          | 7,568.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 7,585.0          | 7,586.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 7,632.0          | 7,633.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 7,675.0          | 7,677.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 7,827.0          | 7,829.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 7,885.0          | 7,887.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 7,959.0          | 7,960.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |

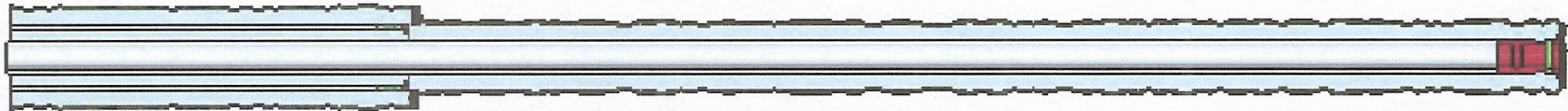


## 2.1 Perforated Interval (Continued)

| Date | Formation/<br>Reservoir | CCL@<br>(usft) | CCL-T<br>S<br>(usft) | MD Top<br>(usft) | MD Base<br>(usft) | Shot<br>Density<br>(shot/ft) | Misfires/<br>Add. Shot | Diamete<br>r<br>(in) | Carr Type /Carr Manuf | Carr<br>Size<br>(in) | Phasing<br>(°) | Charge Desc /Charge<br>Manufacturer | Charge<br>Weight<br>(gram) | Reason         | Misrun |
|------|-------------------------|----------------|----------------------|------------------|-------------------|------------------------------|------------------------|----------------------|-----------------------|----------------------|----------------|-------------------------------------|----------------------------|----------------|--------|
|      | MESAVERDE/              |                |                      | 7,990.0          | 7,991.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,263.0          | 8,264.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,283.0          | 8,284.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,316.0          | 8,318.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,344.0          | 8,346.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,500.0          | 8,501.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,570.0          | 8,571.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,583.0          | 8,584.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,604.0          | 8,606.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,699.0          | 8,700.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |

## 3 Plots

## 3.1 Wellbore Schematic



**US ROCKIES REGION**

**Operation Summary Report**

|  |  |                           |  |                      |                                       |
|--|--|---------------------------|--|----------------------|---------------------------------------|
| Well: NBU 1022-10M1DS GREEN                            |  | Spud Conductor: 8/23/2011 |  | Spud Date: 9/17/2011 |                                       |
| Project: UTAH-UINTAH                                   |  | Site: NBU 1022-10N PAD    |  |                      | Rig Name No: SWABBCO 6/6, SWABBCO 6/6 |
| Event: COMPLETION                                      |  | Start Date: 12/22/2011    |  | End Date: 1/4/2012   |                                       |
| Active Datum: RKB @5,108.00usft (above Mean Sea Level) |  |                           | UWI: SE/SW/0/10/S/22/E/10/0/0/26/PM/S/167/W/0/1765/0/0 |                      |                                       |

| Date       | Time<br>Start-End | Duration<br>(hr) | Phase  | Code | Sub<br>Code | P/U | MD From<br>(usft) | Operation   |
|------------|-------------------|------------------|--------|------|-------------|-----|-------------------|---|
| 11/28/2011 | 7:00 - 7:15       | 0.25             | WO/REP | 48   |             | P   |                   | JSA= MOVING EQUIP   |
|            | 7:15 - 19:00      | 11.75            | WO/REP | 30   |             | P   |                   | MOVE RIG & EQUIP FROM NBU 1022-6FT TO LOC<br>DIRT PILED AROUND LOC CALL BACKHOE TO<br>MOVE & LEVEL DIRT SPOT & RU RIG PU 3-7/8" BIT<br>TALLEY & PU TUBING TAG @ 8682' C/O & DRILL TO<br>FLOAT COLLAR @ 8718' DRILL TO 8730' CIRC<br>CLEAN RD SWWL POOH LD 10 JNTS SDFN  |
| 11/29/2011 | 7:00 - 7:15       | 0.25             | WO/REP | 48   |             | P   |                   | JSA= LD TUBING ON FLOAT   |
|            | 7:15 - 12:00      | 4.75             | WO/REP | 30   |             | P   |                   | 0 PSI ON WELL CONTINUE TO POOH LD TUBING LD<br>BIT ND BOPS NU FRAC VALVES FILL HOLE W/<br>TMAC, RD MOVE TO NBU 1022-10M1AS  |
| 12/2/2011  | 6:00 - 8:00       | 2.00             | COMP   | 33   |             | P   |                   | FILL SURFACE CSG. MIRU B&C QUICK TEST.<br>PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 13<br>PSI.<br>PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 31<br>PSI.<br>1ST PSI TEST T/ 7000 PSI. HELD FOR 30 MIN LOST<br>63 PSI.<br>NO COMMUNICATION WITH SURFACE CSG<br>BLEED OFF PSI.SWFW  |
| 12/12/2011 | 12:00 - 18:00     | 6.00             | COMP   | 36   | B           | P   |                   | NOTE : SURFACE CSG HAD POP OFF ON WHEN I<br>ARRIVED ON LOCATION<br>BLED SURFACE DOWN, SURFACE FLOWED 10 GAL<br>FLUID H2O DRILLING MUD ETC<br>DIED OFF TRIED TO FILL WITH H2O WELL FULL.<br>WELL HAS MIGRATION   |
|            |                   |                  |        |      |             |     |                   | PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE<br>SIZE. 90 DEG PHASING. RIH PERF AS PER DESIGN.<br>POOH. X-OVER FOR FRAC CREW.<br><br>FRAC STG 1)WHP 1459 PSI, BRK 4094 PSI @ 4.6<br>BPM. ISIP 0000 PSI, FG .00.<br>CALC HOLES OPEN @ 50 BPM @ 4895 PSI = 100%<br>HOLES OPEN.<br>ISIP 2842 PSI, FG .77, NPI 259 PSI.<br>MP 6404 PSI, MR 50.5 BPM, AP 5335 PSI, AR 50.2<br>BPM<br>PUMPED 30/50 OTTAWA SAND IN THIS STAGE.<br>SWFN. |

**US ROCKIES REGION**  
**Operation Summary Report**

|  |  |  |  |                                       |  |
|--|--|--|--|---------------------------------------|--|
| Well: NBU 1022-10M1DS GREEN                            |  | Spud Conductor: 8/23/2011                              |  | Spud Date: 9/17/2011                  |  |
| Project: UTAH-UINTAH                                   |  | Site: NBU 1022-10N PAD                                 |  | Rig Name No: SWABBCO 6/6, SWABBCO 6/6 |  |
| Event: COMPLETION                                      |  | Start Date: 12/22/2011                                 |  | End Date: 1/4/2012                    |  |
| Active Datum: RKB @5,108.00usft (above Mean Sea Level) |  | UWI: SE/SW/0/10/S/22/E/10/0/0/26/PM/S/167/W/0/1765/0/0 |  |                                       |  |

| Date       | Time<br>Start-End | Duration<br>(hr) | Phase | Code | Sub<br>Code | P/U | MD From<br>(usft) | Operation  |
|------------|-------------------|------------------|-------|------|-------------|-----|-------------------|--|
| 12/13/2011 | 7:00 - 18:00      | 11.00            | COMP  | 36   | B           | P   |                   | <p>PERF STG 2)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 8384' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW</p> <p>FRAC STG 2)WHP 1430 PSI, BRK 3713 PSI @ 4.3 BPM. ISIP 2524 PSI, FG .74. CALC HOLES OPEN @49.5 BPM @ 5251 PSI = 98% HOLES OPEN. ISIP 2868 PSI, FG .78, NPI 344 PSI. MP 5541 PSI, MR 50.0 BPM, AP 4978 PSI, AR 49.8 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> <p>PERF STG 3)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 8021' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW</p> <p>FRAC STG 3)WHP 1600 PSI, BRK 4061 PSI @ 3.8 BPM. ISIP 2817 PSI, FG .79. CALC HOLES OPEN @ 38.3 BPM @ 6249 PSI = 60% HOLES OPEN. ISIP 3171 PSI, FG .84, NPI 354 PSI. MP 6357 PSI, MR 39.3 BPM, AP 6122 PSI, AR 38.2 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL SWIFN</p> |

US ROCKIES REGION

Operation Summary Report

|  |  |                           |  |                      |                                       |
|--|--|---------------------------|--|----------------------|---------------------------------------|
| Well: NBU 1022-10M1DS GREEN                            |  | Spud Conductor: 8/23/2011 |  | Spud Date: 9/17/2011 |                                       |
| Project: UTAH-UINTAH                                   |  | Site: NBU 1022-10N PAD    |  |                      | Rig Name No: SWABBCO 6/6, SWABBCO 6/6 |
| Event: COMPLETION                                      |  | Start Date: 12/22/2011    |  | End Date: 1/4/2012   |                                       |
| Active Datum: RKB @5,108.00usft (above Mean Sea Level) |  |                           | UWI: SE/SW/0/10/S/22/E/10/0/0/26/PM/S/167/W/0/1765/0/0 |                      |                                       |

| Date       | Time<br>Start-End | Duration<br>(hr) | Phase | Code | Sub<br>Code | P/U | MD From<br>(usft) | Operation   |
|------------|-------------------|------------------|-------|------|-------------|-----|-------------------|---|
| 12/14/2011 | 9:30 - 18:00      | 8.50             | COMP  | 36   | B           | P   |                   | <p>PERF STG 4)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 7707' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.</p> <p>FRAC STG 4)WHP 1200 PSI, BRK 3595 PSI @ 3.9 BPM. ISIP 2265 PSI, FG .74.<br/>CALC HOLES OPEN @ 39.2 BPM @ 5058 PSI = 65% HOLES OPEN.<br/>ISIP 3154 PSI, FG .85, NPI 889 PSI.<br/>MP 6413 PSI, MR 39.3 BPM, AP 4841 PSI, AR 38.8 BPM<br/>PUMPED 30/50 OTTAWA SAND IN THIS STAGE<br/>X-OVER FOR W L</p> <p>PERF STG 5)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 7472' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 5)WHP 1876 PSI, BRK 4225 PSI @ 3.8 BPM. ISIP 2081 PSI, FG .72.<br/>CALC HOLES OPEN @ 39.2 BPM @ 6192 PSI = 60% HOLES OPEN.<br/>ISIP 3018 PSI, FG .85, NPI 889 PSI.<br/>MP 6404 PSI, MR 39.3 BPM, AP 5352 PSI, AR 38 BPM<br/>PUMPED 30/50 OTTAWA SAND IN THIS STAGE<br/>X-OVER FOR W L</p> <p>PERF STG 6)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 7235' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 6)WHP 1270 PSI, BRK 2746 PSI @ 4.1 BPM. ISIP 1887 PSI, FG .70.<br/>CALC HOLES OPEN @ 37.7 BPM @ 4705 PSI = 61% HOLES OPEN.<br/>ISIP 2732 PSI, FG .82, NPI 843 PSI.<br/>MP 5118 PSI, MR 39.2 BPM, AP 4554 PSI, AR 37.5 BPM<br/>PUMPED 30/50 OTTAWA SAND IN THIS STAGE<br/>SWMFN.</p> <p>(( BLENDER FLOW METER MAXED OUT @ 39.2 BPM. PUMPED TODAY'S JOBS @ 40 BPM TO KEEP WATER VOLUMES CLOSE T/ DESIGN. )))</p> |

**US ROCKIES REGION**  
**Operation Summary Report**

|  |  |  |  |                                       |  |
|--|--|--|--|---------------------------------------|--|
| Well: NBU 1022-10M1DS GREEN                            |  | Spud Conductor: 8/23/2011                              |  | Spud Date: 9/17/2011                  |  |
| Project: UTAH-UINTAH                                   |  | Site: NBU 1022-10N PAD                                 |  | Rig Name No: SWABBCO 6/6, SWABBCO 6/6 |  |
| Event: COMPLETION                                      |  | Start Date: 12/22/2011                                 |  | End Date: 1/4/2012                    |  |
| Active Datum: RKB @5,108.00usft (above Mean Sea Level) |  | UWI: SE/SW/0/10/S/22/E/10/0/0/26/PM/S/167/W/0/1765/0/0 |  |                                       |  |

| Date       | Time<br>Start-End | Duration<br>(hr) | Phase  | Code | Sub<br>Code | P/U | MD From<br>(usft) | Operation  |
|------------|-------------------|------------------|--------|------|-------------|-----|-------------------|--|
| 12/15/2011 | 9:30 - 15:00      | 5.50             | COMP   | 36   | B           | P   |                   | <p>PERF STG 7)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 7057' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 7)WHP 325 PSI, BRK 1998 PSI @ 3.1 BPM. ISIP 1003 PSI, FG .58. CALC HOLES OPEN @ 38.8 BPM @ 5129 PSI = 60% HOLES OPEN. ISIP 2543 PSI, FG .80, NPI PSI. MP 5357 PSI, MR 39.4 BPM, AP 4750 PSI, AR 37.5 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W/L</p> <p>PERF STG 8)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 6896' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 8)WHP 1020 PSI, BRK 2332 PSI @ 4.2 BPM. ISIP 1457 PSI, FG .65. CALC HOLES OPEN @ 39.1 BPM @ 5276 PSI = 60% HOLES OPEN. ISIP 2059 PSI, FG .74, NPI 602 PSI. MP 6122 PSI, MR 39.4 BPM, AP 4319 PSI, AR 38.1 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W/L</p> <p>PU 4 1/2 8K HAL CBP. RIH SET KILL PLUG @ 6729'. POOH. SWI.</p> <p>TOTAL SAND = 169,683 LBS<br/>TOTAL CLFL = 8961 BBLS<br/>JSA= RD RIG MOVE EQUIP</p> |
| 12/22/2011 | 7:00 - 7:15       | 0.25             | COMP   | 48   |             | P   |                   | <p>RDRIG ON 10M1AS MOVE RU ON 10M1DS RU RIG &amp; PMP THAW ICE PLG IN CSG RU W/L PU GUN RIH PERF @ 2245'-46, 6 HOLES RD W/L NU PUMP INJ 1 BBPM @ 700# W/ COMMUNICATION @ SURFACE PUMP 10 BBLS SIW SDFW</p> <p>JSA= PUMP CEM</p>  |
|            | 7:15 - 15:00      | 7.75             | COMP   | 30   |             | P   |                   |  |
| 12/27/2011 | 7:00 - 7:15       | 0.25             | WO/REP | 48   |             | P   |                   | <p>SIWP= 0 PSI PU COMP CEM RET TALLEY &amp; PU TUBING SET CCR @ 2201' NU PRO PETRO TEST LINES TO 3000# FILL ANN PUT 500# , PUMP DWN TUB @ 1.5 BBLS PER MIN 950 PSI, MIX &amp; PUMP 50 SKS START STAGING W/ 2.5 BBLS IN TUBING SD W/ 600 PSI 15 MIN PRESS 475 PSI PMP 1 BBL PRESS @ 700 PSI SD 10 MIN PMP 1/2 BBL PRESS @ 950 PSI STING OUT OF RET POOH LD SETTING TOOL SIW SDFN</p> <p>PWR SWWL SAFETY</p>   |
|            | 7:15 - 17:00      | 9.75             | WO/REP | 30   |             | P   |                   |  |
| 12/28/2011 | 7:00 - 7:15       | 0.25             | WO/REP | 48   |             | P   |                   |  |

**US ROCKIES REGION**  
**Operation Summary Report**

|  |  |  |  |                                       |  |
|--|--|--|--|---------------------------------------|--|
| Well: NBU 1022-10M1DS GREEN                            |  | Spud Conductor: 8/23/2011                              |  | Spud Date: 9/17/2011                  |  |
| Project: UTAH-UINTAH                                   |  | Site: NBU 1022-10N PAD                                 |  | Rig Name No: SWABBCO 6/6, SWABBCO 6/6 |  |
| Event: COMPLETION                                      |  | Start Date: 12/22/2011                                 |  | End Date: 1/4/2012                    |  |
| Active Datum: RKB @5,108.00usft (above Mean Sea Level) |  | UWI: SE/SW/0/10/S/22/E/10/0/0/26/PM/S/167/W/0/1765/0/0 |  |                                       |  |

| Date       | Time<br>Start-End | Duration<br>(hr) | Phase  | Code | Sub<br>Code | P/U | MD From<br>(usft) | Operation  |
|------------|-------------------|------------------|--------|------|-------------|-----|-------------------|--|
|            | 7:15 - 17:00      | 9.75             | WO/REP | 30   |             | P   |                   | SIWP= 0 PSI PU 3-7/8" BIT RIH TAG TOC @ 2156'<br>DRILL THRU CEM & RET & CEM PAST SQUEEZE<br>HOLES CIRC CLEAN, PRESS UP TO 1800# SQUEEZE<br>BROKE, PUMPED 1 BPM @ 1400# CALL OUT RET<br>TIH SET 1 JNT HIGHER @ 2169' PREP TO PUMP CEM<br>IN AM SIW SDFN<br>JSA= SQUEEZING   |
| 12/29/2011 | 7:00 - 7:15       | 0.25             | WO/REP | 48   |             | P   |                   | JSA= SQUEEZING   |
|            | 7:15 - 15:00      | 7.75             | WO/REP | 30   |             | P   |                   | SIWP= 0 PSI NU PRO PETRO TEST LINES TO 3000#<br>PRESS ANN TO 500# TO MONITOR MIX & PUMP 26<br>SKS 7.6 BBLs SLURRY PUMP 6 BBLs FRESH<br>BEHIND SD STAGE 15 MIN START PRESS 800 PSI<br>AFTER 15 MIN 600# PUMP 1 BBL PRESS 1000#<br>STAGE 15 MIN PRESS 950 PUMP 1/2 BBL SD @<br>1180# W/ 1/4 BBL CEM IN TUBING STING OUT OF<br>RET POOH W/ STINGER PU 3-7/8" BIT RIH TO EOT @<br>1930' SIW SDFN   |
| 12/30/2011 | 7:00 - 7:15       | 0.25             | COMP   | 48   |             | P   |                   | JSA= DRILL CEM   |
|            | 7:15 - 18:00      | 10.75            | COMP   | 30   |             | P   |                   | CONTINUE TO RIH TAG TOC @ 2134' RU PWR<br>SWWL EST CIRC DRILL THRU CEM & RET FELL THRU<br>CEM CIRC CLEAN PRESS CSG TO 2000 PSI LEAKED<br>1000# 5 MIN COULDN'T EST INJ RATE POOH W/ BIT<br>PU NOTCHED COLLAR RIH EOT @ 2282' MIX & PUMP<br>20 SKS CEM 4 BBLs SLURRY SPOT BALANCED<br>PLUG @ EOT 258' CEM IN CSG POOH W/ TUBING NU<br>TO CSG PRESS UP TO 2200# STAGE 10 MIN PRESS<br>@ 1800# PRESS UP TO 2200# 20 MIN PRESS @<br>1200# W/ 1 BBL CEM STILL IN CSG SIW SDFW<br>JSA= ICE PLUGS  |
| 1/3/2012   | 6:00 - 6:15       | 0.25             | COMP   | 48   |             | P   |                   | SIWP= 500 PSI THAW OUT W/H BLEED OFF PRESS<br>PU 3-7/8" BIT RIH TAG TOC @ 2197' RU PWR SWWL<br>& DRILL HEAD EST CIRC W/ RIG PUMP DRILL THRU<br>CEM CIRC CLEAN PRESS TEST SQUEEZE TO 2000#<br>15 MIN RD PWR SWWL POOH W/ BIT PU POBS PKG<br>RIH TAG 1ST PLUG @ 6720' RU PUMP & PWR SWWL<br>EST CIRC   |
|            | 6:15 - 17:00      | 10.75            | COMP   | 30   |             | P   |                   | PLUG #1] DRILL THRU HALLI 8K CBP @ 6720' IN 8<br>MIN W/ 0 INCREASE<br><br>PLUG #2] CONTINUE TO RIH TAG SAND @ 6840'<br>(50' FILL) C/O & DRILL THRU HALLI 8K CBP @ 6890'<br>IN 10 MIN W/ 0 INCREASE<br><br>PLUG #3] CONTINUE TO RIH TAG SAND @ 7025'<br>(25' FILL) C/O & DRILL THRU HALLI 8K CBP @ 7050'<br>IN 8 MIN W/ 100# INCREASE<br><br>PLUG #4] CONTINUE TO RIH TAG SAND @ 7200'<br>(30' FILL) C/O & DRILL THRU HALLI 8K CBP @ 7230'<br>IN 10 MIN W/ 300# INCREASE<br><br>CONTINUE TO RIH 2 JNTS CIRC WELL 30 MIN TO<br>CLEAN UP SIW SDFN CONTINUE TO C/O & DRILL<br>PLUGS IN AM<br>JSA= DRILLING PLUGS |
| 1/4/2012   | 7:00 - 7:15       | 0.25             | COMP   | 48   |             | P   |                   |  |

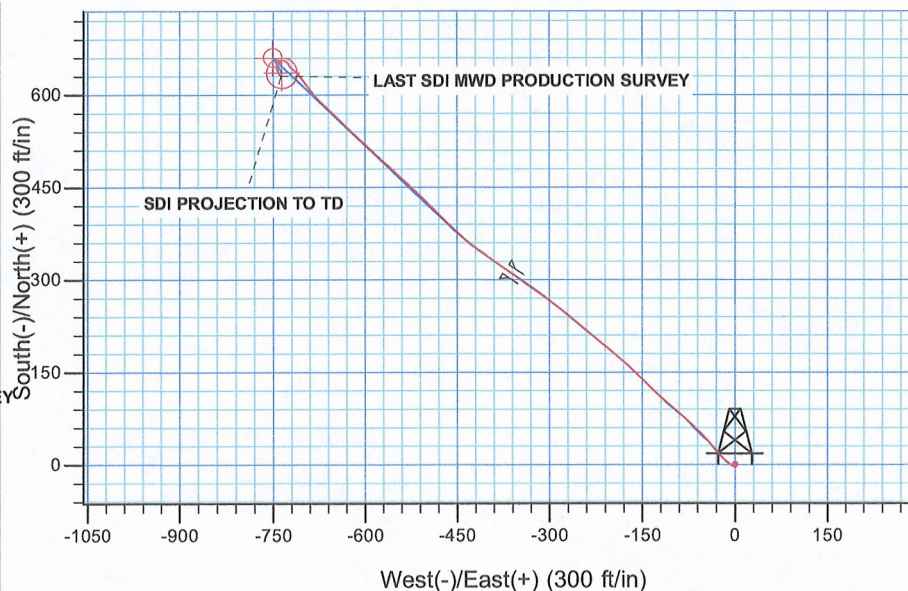
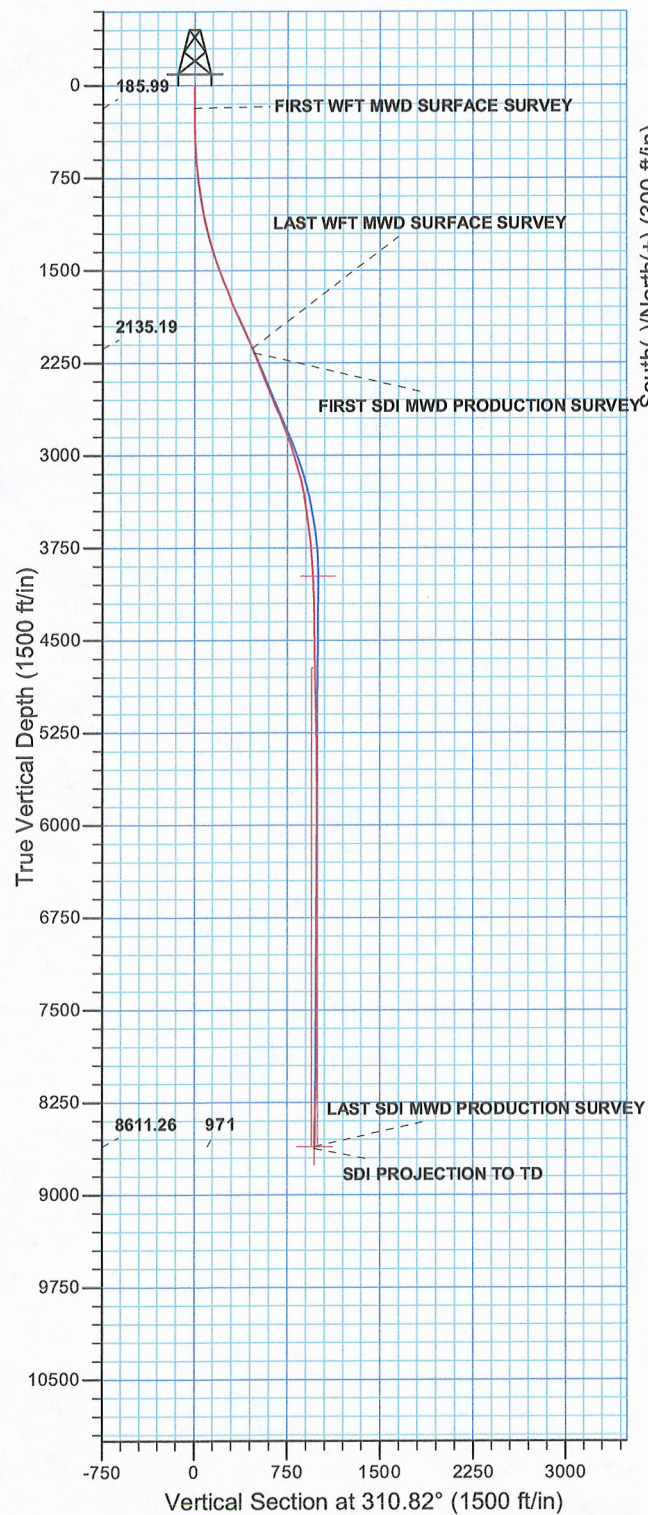
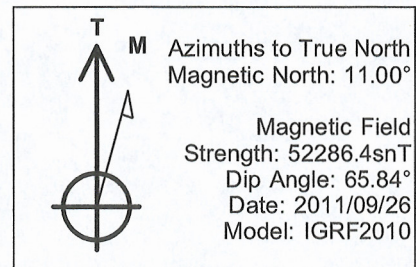


**US ROCKIES REGION**  
**Operation Summary Report**

|  |  |   |  |                                       |  |
|--|--|---|--|---------------------------------------|--|
| Well: NBU 1022-10M1DS GREEN                            |  | Spud Conductor: 8/23/2011                             |  | Spud Date: 9/17/2011                  |  |
| Project: UTAH-UINTAH                                   |  | Site: NBU 1022-10N PAD                                |  | Rig Name No: SWABBCO 6/6, SWABBCO 6/6 |  |
| Event: COMPLETION                                      |  | Start Date: 12/22/2011                                |  | End Date: 1/4/2012                    |  |
| Active Datum: RKB @5,108.00usft (above Mean Sea Level) |  | UWI: SE/SW0/10/S/22/E/10/0/0/26/PM/S/167/W/0/1765/0/0 |  |                                       |  |

| Date     | Time<br>Start-End | Duration<br>(hr) | Phase | Code | Sub<br>Code | P/U | MD From<br>(usft) | Operation  |
|----------|-------------------|------------------|-------|------|-------------|-----|-------------------|--|
|          | 7:15 - 17:00      | 9.75             | COMP  | 30   |             | P   |                   | <p>SIWP= 2500 PSI OPEN WELL TO PIT RU RIG PUMP &amp; PWR SWWL EST CIRC.</p> <p>PLUG #5] CONTINUE TO RIH TAG SAND @ 7452' (20' FILL) C/O &amp; DRILL THRU HALLI 8K CBP @ 7472' IN 10 MIN W/ 250# INCREASE</p> <p>PLUG #6] CONTINUE TO RIH TAG SAND @ 7682' (25' FILL) C/O &amp; DRILL THRU HALLI 8K CBP @ 7707' IN 8 MIN W/ 250# INCREASE</p> <p>PLUG #7] CONTINUE TO RIH TAG SAND @ 7991' (30' FILL) C/O &amp; DRILL THRU HALLI 8K CBP @ 8021' IN 12 MIN W/ 150# INCREASE</p> <p>PLUG #8] CONTINUE TO RIH TAG SAND @ 8364' (20' FILL) C/O &amp; DRILL THRU HALLI 8K CBP @ 8384' IN 12 MIN W/ 300# INCREASE</p> <p>PBTD] CONTINUE TO RIH TAG SAND @ 8700' (18' FILL) C/O TO PBTD @ 8718' CIRC CLEAN POOH LD 16 JNTS LAND TUBING ON HNGR W/ 259 JNTS EOT @ 8234.06' RD FLOOR &amp; TUBING EQUIP ND BOPS NU WELLHEAD DROP BALL PUMP OFF BIT @ 2300 PSI SIW 30 MIN TO ALLOW BIT TO FALL NU TO TEST SEPARATOR TURN WELL OVER TO FBC@ 12:00 RD RIG MOVE TO NBU 1021-29F</p> <p>K.B.=.....14.00<br/> HNGR=.....86<br/> 259 JNTS 2-3/8" L-80=.....8217.00<br/> POBS=.....2.20<br/> EOT=.....8234.06</p> <p>CTAP DEL= 283 JNTS<br/> USED= 259 JNTS<br/> RETURNED= 24 JNTS</p> <p>TOTAL FLUID PUMPED=8718 BBLS<br/> RIG REC= 2500 BBLS<br/> LEFT TO REC= 6218 BBLS<br/> WELL TURNED TO SALES @ 1300 HR ON 1/4/2012 - 2320 MCFD, 2160 BWPD, FCP 1800#, FTP 1250#, 20/64" CK<br/> WELL IP'D ON 1/7/12 - 695 MCFD, 0 BOPD, 432 BWPD, CP 603 #, FTP 268#, CK 20/64", LP 122#, 24 HRS</p> |
|          | 13:00 -           |                  | PROD  | 50   |             |     |                   |  |
| 1/7/2012 | 7:00 -            |                  | PROD  | 50   |             |     |                   |  |

| WELL DETAILS: NBU 1022-10M1DS           |       |             |            |                  |                   |
|---|-------|-------------|------------|------------------|-------------------|
| GL 5094 & KB 14 @ 5108.00ft (ENSGN 139) |       |             |            |                  |                   |
| +N/-S                                   | +E/-W | Northing    | Easting    | Latitude         | Longitude         |
| 0.00                                    | 0.00  | 14514168.82 | 2080851.89 | 39° 57' 24.234 N | 109° 25' 42.136 W |



| PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N |  |
|---|--|
| Geodetic System:                                    | Universal Transverse Mercator (US Survey Feet) |
| Datum:  | NAD 1927 (NADCON CONUS)                        |
| Ellipsoid:  | Clarke 1866                                    |
| Zone:   | Zone 12N (114 W to 108 W)                      |
| Location:   | SECTION 10 T10S R22E                           |
| System Datum:                                       | Mean Sea Level                                 |



**Scientific Drilling**  
Rocky Mountain Operations

## **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N

NBU 1022-10N PAD

NBU 1022-10M1DS

OH

Design: OH

## **Standard Survey Report**

29 December, 2011

**Anadarko**   
Petroleum Corporation



|                  |                                    |                                     |  |
|------------------|------------------------------------|-------------------------------------|--|
| <b>Company:</b>  | US ROCKIES REGION PLANNING         | <b>Local Co-ordinate Reference:</b> | Well NBU 1022-10M1DS                     |
| <b>Project:</b>  | UTAH - UTM (feet), NAD27, Zone 12N | <b>TVD Reference:</b>               | GL 5094 & KB 14 @ 5108.00ft (ENSIGN 139) |
| <b>Site:</b>     | NBU 1022-10N PAD                   | <b>MD Reference:</b>                | GL 5094 & KB 14 @ 5108.00ft (ENSIGN 139) |
| <b>Well:</b>     | NBU 1022-10M1DS                    | <b>North Reference:</b>             | True                                     |
| <b>Wellbore:</b> | OH                                 | <b>Survey Calculation Method:</b>   | Minimum Curvature                        |
| <b>Design:</b>   | OH                                 | <b>Database:</b>                    | EDM5000-RobertS-Local                    |

|                    |  |                      |                |
|--------------------|--|----------------------|----------------|
| <b>Project</b>     | UTAH - UTM (feet), NAD27, Zone 12N             |                      |                |
| <b>Map System:</b> | Universal Transverse Mercator (US Survey Feet) | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | NAD 1927 (NADCON CONUS)                        |                      |                |
| <b>Map Zone:</b>   | Zone 12N (114 W to 108 W)                      |                      |                |

|                       |  |          |           |          |  |  |                   |  |           |            |  |                   |                   |  |        |  |  |
|-----------------------|--|----------|-----------|----------|--|--|-------------------|--|-----------|------------|--|-------------------|-------------------|--|--------|--|--|
| Site                  |  |          |           |          |  | NBU 1022-10N PAD, SECTION 10 T10S R22E |                   |  |           |            |  |                   |                   |  |        |  |  |
| Site Position:        |  |          | Northing: |          |  | 14,514,189.75 usft                     |                   |  | Latitude: |            |  | 39° 57' 24.431 N  |                   |  |        |  |  |
| From:                 |  | Lat/Long |           | Easting: |  |  | 2,080,908.25 usft |  |           | Longitude: |  |                   | 109° 25' 41.407 W |  |        |  |  |
| Position Uncertainty: |  |          | 0.00 ft   |          |  | Slot Radius:                           |                   |  | 13.200 in |            |  | Grid Convergence: |                   |  | 1.01 ° |  |  |

|                             |                                     |                            |                  |                      |                                     |
|-----------------------------|-------------------------------------|----------------------------|------------------|----------------------|-------------------------------------|
| <b>Well</b>                 | NBU 1022-10M1DS, 167' FSL 1765' FWL |                            |                  |                      |                                     |
| <b>Well Position</b>        | <b>+N/-S</b>                        | 0.00 ft                    | <b>Northing:</b> | 14,514,168.82 usft   | <b>Latitude:</b> 39° 57' 24.234 N   |
|                             | <b>+E/-W</b>                        | 0.00 ft                    | <b>Easting:</b>  | 2,080,851.88 usft    | <b>Longitude:</b> 109° 25' 42.136 W |
| <b>Position Uncertainty</b> | 0.00 ft                             | <b>Wellhead Elevation:</b> | ft               | <b>Ground Level:</b> | 5,094.00 ft                         |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | OH                |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2010          | 2011/09/26         | 11.00                  | 65.84                | 52,286                     |

|                          |                              |                   |                   |                      |      |
|--------------------------|------------------------------|-------------------|-------------------|----------------------|------|
| <b>Design</b>            | OH                           |                   |                   |                      |      |
| <b>Audit Notes:</b>      |                              |                   |                   |                      |      |
| <b>Version:</b>          | 1.0                          | <b>Phase:</b>     | ACTUAL            | <b>Tie On Depth:</b> | 0.00 |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b> | <b>Direction (°)</b> |      |
|                          | 0.00                         | 0.00              | 0.00              | 310.82               |      |

|                       |                 |                                   |                  |                              |  |
|-----------------------|-----------------|-----------------------------------|------------------|------------------------------|--|
| <b>Survey Program</b> | Date 2011/12/29 |                                   |                  |                              |  |
| <b>From (ft)</b>      | <b>To (ft)</b>  | <b>Survey (Wellbore)</b>          | <b>Tool Name</b> | <b>Description</b>           |  |
| 10.00                 | 2,211.00        | Survey #1 WFT MWD SURFACE (OH)    | MWD              | MWD - Standard               |  |
| 2,249.00              | 8,785.00        | Survey #2 SDI MWD PRODUCTION (OH) | SDI MWD          | SDI MWD - Standard ver 1.0.1 |  |

|                                     |                        |                    |                            |                   |                   |                              |                              |                             |                            |  |
|-------------------------------------|------------------------|--------------------|----------------------------|-------------------|-------------------|------------------------------|------------------------------|-----------------------------|----------------------------|--|
| <b>Survey</b>                       |                        |                    |                            |                   |                   |                              |                              |                             |                            |  |
| <b>Measured Depth (ft)</b>          | <b>Inclination (°)</b> | <b>Azimuth (°)</b> | <b>Vertical Depth (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b> | <b>Vertical Section (ft)</b> | <b>Dogleg Rate (°/100ft)</b> | <b>Build Rate (°/100ft)</b> | <b>Turn Rate (°/100ft)</b> |  |
| 0.00                                | 0.00                   | 0.00               | 0.00                       | 0.00              | 0.00              | 0.00                         | 0.00                         | 0.00                        | 0.00                       |  |
| 10.00                               | 0.00                   | 0.00               | 10.00                      | 0.00              | 0.00              | 0.00                         | 0.00                         | 0.00                        | 0.00                       |  |
| 186.00                              | 0.84                   | 186.63             | 185.99                     | -1.28             | -0.15             | -0.72                        | 0.48                         | 0.48                        | 0.00                       |  |
| <b>FIRST WFT MWD SURFACE SURVEY</b> |                        |                    |                            |                   |                   |                              |                              |                             |                            |  |
| 272.00                              | 1.08                   | 237.28             | 271.98                     | -2.35             | -0.90             | -0.85                        | 0.99                         | 0.28                        | 58.90                      |  |
| 358.00                              | 1.73                   | 278.42             | 357.96                     | -2.59             | -2.87             | 0.48                         | 1.35                         | 0.76                        | 47.84                      |  |
| 448.00                              | 2.94                   | 307.80             | 447.89                     | -0.98             | -6.04             | 3.93                         | 1.85                         | 1.34                        | 32.64                      |  |
| 538.00                              | 4.25                   | 311.80             | 537.71                     | 2.66              | -10.35            | 9.57                         | 1.48                         | 1.46                        | 4.44                       |  |
| 628.00                              | 5.44                   | 313.05             | 627.38                     | 7.79              | -15.95            | 17.17                        | 1.33                         | 1.32                        | 1.39                       |  |
| 718.00                              | 5.81                   | 315.43             | 716.95                     | 13.95             | -22.27            | 25.97                        | 0.49                         | 0.41                        | 2.64                       |  |

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** NBU 1022-10N PAD  
**Well:** NBU 1022-10M1DS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1022-10M1DS  
**TVD Reference:** GL 5094 & KB 14 @ 5108.00ft (ENSIGN 139)  
**MD Reference:** GL 5094 & KB 14 @ 5108.00ft (ENSIGN 139)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

| Survey                          |                 |             |                     |            |            |                       |                       |                      |                     |
|---------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft)             | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 808.00                          | 8.14            | 319.00      | 806.28              | 22.01      | -29.64     | 36.82                 | 2.63                  | 2.59                 | 3.97                |
| 898.00                          | 9.06            | 320.05      | 895.27              | 32.25      | -38.37     | 50.12                 | 1.04                  | 1.02                 | 1.17                |
| 988.00                          | 10.25           | 314.68      | 983.99              | 43.31      | -48.62     | 65.10                 | 1.66                  | 1.32                 | -5.97               |
| 1,078.00                        | 11.81           | 314.93      | 1,072.33            | 55.45      | -60.83     | 82.28                 | 1.73                  | 1.73                 | 0.28                |
| 1,168.00                        | 14.25           | 314.68      | 1,160.00            | 69.74      | -75.23     | 102.52                | 2.71                  | 2.71                 | -0.28               |
| 1,258.00                        | 15.31           | 311.18      | 1,247.02            | 85.35      | -92.05     | 125.46                | 1.54                  | 1.18                 | -3.89               |
| 1,348.00                        | 16.38           | 310.55      | 1,333.60            | 101.43     | -110.64    | 150.03                | 1.20                  | 1.19                 | -0.70               |
| 1,438.00                        | 17.81           | 314.68      | 1,419.63            | 119.36     | -130.07    | 176.45                | 2.08                  | 1.59                 | 4.59                |
| 1,528.00                        | 20.31           | 314.55      | 1,504.69            | 140.00     | -150.99    | 205.78                | 2.78                  | 2.78                 | -0.14               |
| 1,618.00                        | 20.69           | 311.93      | 1,588.99            | 161.58     | -173.95    | 237.26                | 1.10                  | 0.42                 | -2.91               |
| 1,708.00                        | 21.56           | 310.68      | 1,672.94            | 182.98     | -198.32    | 269.69                | 1.09                  | 0.97                 | -1.39               |
| 1,798.00                        | 22.25           | 309.43      | 1,756.44            | 204.58     | -224.02    | 303.27                | 0.93                  | 0.77                 | -1.39               |
| 1,888.00                        | 23.13           | 310.05      | 1,839.48            | 226.78     | -250.71    | 337.98                | 1.01                  | 0.98                 | 0.69                |
| 1,978.00                        | 24.56           | 309.30      | 1,921.79            | 250.00     | -278.72    | 374.35                | 1.62                  | 1.59                 | -0.83               |
| 2,068.00                        | 23.81           | 307.18      | 2,003.89            | 272.83     | -307.67    | 411.18                | 1.27                  | -0.83                | -2.36               |
| 2,158.00                        | 23.25           | 304.68      | 2,086.41            | 293.92     | -336.75    | 446.97                | 1.27                  | -0.62                | -2.78               |
| 2,211.00                        | 22.81           | 304.27      | 2,135.19            | 305.65     | -353.85    | 467.58                | 0.88                  | -0.83                | -0.77               |
| LAST WFT MWD SURFACE SURVEY     |                 |             |                     |            |            |                       |                       |                      |                     |
| 2,249.00                        | 21.98           | 304.54      | 2,170.32            | 313.83     | -365.79    | 481.97                | 2.20                  | -2.18                | 0.71                |
| FIRST SDI MWD PRODUCTION SURVEY |                 |             |                     |            |            |                       |                       |                      |                     |
| 2,340.00                        | 20.93           | 304.84      | 2,255.01            | 332.77     | -393.16    | 515.06                | 1.16                  | -1.15                | 0.33                |
| 2,430.00                        | 20.67           | 305.03      | 2,339.15            | 351.07     | -419.36    | 546.85                | 0.30                  | -0.29                | 0.21                |
| 2,520.00                        | 20.85           | 312.10      | 2,423.32            | 370.93     | -444.26    | 578.67                | 2.79                  | 0.20                 | 7.86                |
| 2,611.00                        | 22.86           | 315.40      | 2,507.78            | 394.38     | -468.69    | 612.49                | 2.59                  | 2.21                 | 3.63                |
| 2,701.00                        | 24.73           | 315.20      | 2,590.12            | 420.19     | -494.23    | 648.69                | 2.08                  | 2.08                 | -0.22               |
| 2,792.00                        | 23.92           | 313.34      | 2,673.05            | 446.36     | -521.06    | 686.10                | 1.23                  | -0.89                | -2.04               |
| 2,882.00                        | 22.05           | 311.76      | 2,755.90            | 470.13     | -546.93    | 721.22                | 2.19                  | -2.08                | -1.76               |
| 2,973.00                        | 19.89           | 313.36      | 2,840.87            | 492.14     | -570.93    | 753.77                | 2.46                  | -2.37                | 1.76                |
| 3,063.00                        | 16.78           | 311.82      | 2,926.29            | 511.32     | -591.75    | 782.06                | 3.50                  | -3.46                | -1.71               |
| 3,154.00                        | 16.24           | 313.65      | 3,013.54            | 528.86     | -610.75    | 807.90                | 0.82                  | -0.59                | 2.01                |
| 3,245.00                        | 15.47           | 314.70      | 3,101.07            | 546.18     | -628.58    | 832.72                | 0.90                  | -0.85                | 1.15                |
| 3,335.00                        | 13.41           | 313.35      | 3,188.23            | 561.79     | -644.70    | 855.12                | 2.32                  | -2.29                | -1.50               |
| 3,425.00                        | 12.56           | 313.20      | 3,275.92            | 575.65     | -659.43    | 875.33                | 0.95                  | -0.94                | -0.17               |
| 3,516.00                        | 9.19            | 316.11      | 3,365.28            | 587.67     | -671.68    | 892.45                | 3.75                  | -3.70                | 3.20                |
| 3,607.00                        | 7.98            | 317.95      | 3,455.26            | 597.59     | -680.95    | 905.96                | 1.36                  | -1.33                | 2.02                |
| 3,697.00                        | 7.38            | 324.94      | 3,544.45            | 606.97     | -688.45    | 917.76                | 1.23                  | -0.67                | 7.77                |
| 3,788.00                        | 7.97            | 322.97      | 3,634.63            | 616.79     | -695.61    | 929.60                | 0.71                  | 0.65                 | -2.16               |
| 3,878.00                        | 5.80            | 321.02      | 3,723.98            | 625.30     | -702.23    | 940.18                | 2.42                  | -2.41                | -2.17               |
| 3,969.00                        | 5.63            | 320.19      | 3,814.53            | 632.31     | -707.98    | 949.11                | 0.21                  | -0.19                | -0.91               |
| 4,060.00                        | 4.04            | 309.95      | 3,905.20            | 637.79     | -713.30    | 956.72                | 1.98                  | -1.75                | -11.25              |
| 4,150.00                        | 2.23            | 297.07      | 3,995.07            | 640.63     | -717.29    | 961.59                | 2.15                  | -2.01                | -14.31              |
| 4,241.00                        | 1.00            | 320.38      | 4,086.03            | 642.04     | -719.37    | 964.09                | 1.51                  | -1.35                | 25.62               |
| 4,332.00                        | 1.04            | 325.13      | 4,177.01            | 643.33     | -720.35    | 965.67                | 0.10                  | 0.04                 | 5.22                |

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** NBU 1022-10N PAD  
**Well:** NBU 1022-10M1DS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1022-10M1DS  
**TVD Reference:** GL 5094 & KB 14 @ 5108.00ft (ENSIGN 139)  
**MD Reference:** GL 5094 & KB 14 @ 5108.00ft (ENSIGN 139)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

**Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 4,422.00            | 0.81            | 326.48      | 4,267.00            | 644.53     | -721.17    | 967.08                | 0.26                  | -0.26                | 1.50                |
| 4,513.00            | 0.80            | 318.91      | 4,357.99            | 645.55     | -721.94    | 968.32                | 0.12                  | -0.01                | -8.32               |
| 4,603.00            | 0.80            | 322.36      | 4,447.98            | 646.52     | -722.74    | 969.56                | 0.05                  | 0.00                 | 3.83                |
| 4,694.00            | 0.91            | 337.39      | 4,538.97            | 647.69     | -723.40    | 970.83                | 0.27                  | 0.12                 | 16.52               |
| 4,784.00            | 1.00            | 312.88      | 4,628.96            | 648.88     | -724.25    | 972.26                | 0.46                  | 0.10                 | -27.23              |
| 4,875.00            | 0.78            | 322.52      | 4,719.95            | 649.92     | -725.21    | 973.66                | 0.29                  | -0.24                | 10.59               |
| 4,965.00            | 0.96            | 323.70      | 4,809.94            | 651.01     | -726.03    | 974.99                | 0.20                  | 0.20                 | 1.31                |
| 5,056.00            | 1.06            | 338.11      | 4,900.93            | 652.41     | -726.79    | 976.48                | 0.30                  | 0.11                 | 15.84               |
| 5,147.00            | 0.95            | 343.74      | 4,991.91            | 653.91     | -727.32    | 977.86                | 0.16                  | -0.12                | 6.19                |
| 5,237.00            | 1.31            | 285.72      | 5,081.90            | 654.91     | -728.52    | 979.42                | 1.27                  | 0.40                 | -64.47              |
| 5,328.00            | 1.33            | 282.48      | 5,172.87            | 655.42     | -730.55    | 981.29                | 0.08                  | 0.02                 | -3.56               |
| 5,418.00            | 1.21            | 275.78      | 5,262.85            | 655.74     | -732.52    | 982.99                | 0.21                  | -0.13                | -7.44               |
| 5,509.00            | 1.11            | 272.11      | 5,353.83            | 655.87     | -734.35    | 984.46                | 0.14                  | -0.11                | -4.03               |
| 5,599.00            | 1.25            | 270.75      | 5,443.81            | 655.91     | -736.21    | 985.90                | 0.16                  | 0.16                 | -1.51               |
| 5,690.00            | 1.14            | 265.71      | 5,534.79            | 655.86     | -738.10    | 987.29                | 0.17                  | -0.12                | -5.54               |
| 5,780.00            | 0.90            | 262.82      | 5,624.78            | 655.70     | -739.70    | 988.40                | 0.27                  | -0.27                | -3.21               |
| 5,871.00            | 0.83            | 276.22      | 5,715.77            | 655.68     | -741.06    | 989.42                | 0.23                  | -0.08                | 14.73               |
| 5,961.00            | 0.71            | 266.83      | 5,805.76            | 655.72     | -742.26    | 990.36                | 0.19                  | -0.13                | -10.43              |
| 6,052.00            | 0.61            | 256.39      | 5,896.76            | 655.58     | -743.30    | 991.04                | 0.17                  | -0.11                | -11.47              |
| 6,142.00            | 0.34            | 241.10      | 5,986.75            | 655.34     | -744.00    | 991.42                | 0.33                  | -0.30                | -16.99              |
| 6,233.00            | 0.07            | 209.06      | 6,077.75            | 655.16     | -744.26    | 991.50                | 0.31                  | -0.30                | -35.21              |
| 6,323.00            | 0.07            | 96.23       | 6,167.75            | 655.10     | -744.23    | 991.44                | 0.13                  | 0.00                 | -125.37             |
| 6,414.00            | 0.31            | 104.25      | 6,258.75            | 655.04     | -743.94    | 991.18                | 0.26                  | 0.26                 | 8.81                |
| 6,504.00            | 0.48            | 132.96      | 6,348.75            | 654.72     | -743.43    | 990.58                | 0.28                  | 0.19                 | 31.90               |
| 6,595.00            | 0.77            | 109.16      | 6,439.74            | 654.26     | -742.57    | 989.63                | 0.42                  | 0.32                 | -26.15              |
| 6,685.00            | 0.83            | 108.94      | 6,529.73            | 653.85     | -741.38    | 988.47                | 0.07                  | 0.07                 | -0.24               |
| 6,776.00            | 1.08            | 102.26      | 6,620.72            | 653.45     | -739.92    | 987.10                | 0.30                  | 0.27                 | -7.34               |
| 6,866.00            | 1.11            | 95.81       | 6,710.71            | 653.18     | -738.23    | 985.64                | 0.14                  | 0.03                 | -7.17               |
| 6,957.00            | 0.71            | 86.36       | 6,801.69            | 653.13     | -736.79    | 984.52                | 0.47                  | -0.44                | -10.38              |
| 7,047.00            | 0.91            | 301.16      | 6,891.69            | 653.54     | -736.84    | 984.82                | 1.72                  | 0.22                 | -161.33             |
| 7,138.00            | 0.86            | 290.84      | 6,982.68            | 654.15     | -738.10    | 986.18                | 0.18                  | -0.05                | -11.34              |
| 7,228.00            | 0.77            | 303.44      | 7,072.67            | 654.73     | -739.23    | 987.41                | 0.22                  | -0.10                | 14.00               |
| 7,319.00            | 0.47            | 302.50      | 7,163.66            | 655.26     | -740.06    | 988.39                | 0.33                  | -0.33                | -1.03               |
| 7,409.00            | 0.45            | 273.17      | 7,253.66            | 655.48     | -740.72    | 989.03                | 0.26                  | -0.02                | -32.59              |
| 7,500.00            | 0.27            | 240.54      | 7,344.66            | 655.40     | -741.27    | 989.39                | 0.29                  | -0.20                | -35.86              |
| 7,590.00            | 0.55            | 256.49      | 7,434.66            | 655.19     | -741.87    | 989.71                | 0.33                  | 0.31                 | 17.72               |
| 7,681.00            | 0.57            | 238.26      | 7,525.65            | 654.85     | -742.68    | 990.10                | 0.20                  | 0.02                 | -20.03              |
| 7,771.00            | 0.50            | 261.47      | 7,615.65            | 654.56     | -743.45    | 990.49                | 0.25                  | -0.08                | 25.79               |
| 7,862.00            | 0.32            | 235.17      | 7,706.65            | 654.35     | -744.05    | 990.81                | 0.28                  | -0.20                | -28.90              |
| 7,952.00            | 0.64            | 198.33      | 7,796.64            | 653.73     | -744.41    | 990.68                | 0.48                  | 0.36                 | -40.93              |
| 8,043.00            | 1.16            | 180.60      | 7,887.63            | 652.33     | -744.58    | 989.89                | 0.64                  | 0.57                 | -19.48              |
| 8,133.00            | 1.54            | 187.22      | 7,977.61            | 650.22     | -744.75    | 988.64                | 0.46                  | 0.42                 | 7.36                |
| 8,225.00            | 1.77            | 181.00      | 8,069.57            | 647.57     | -744.93    | 987.04                | 0.32                  | 0.25                 | -6.76               |
| 8,315.00            | 1.98            | 162.87      | 8,159.52            | 644.70     | -744.49    | 984.83                | 0.70                  | 0.23                 | -20.14              |



**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** NBU 1022-10N PAD  
**Well:** NBU 1022-10M1DS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1022-10M1DS  
**TVD Reference:** GL 5094 & KB 14 @ 5108.00ft (ENSIGN 139)  
**MD Reference:** GL 5094 & KB 14 @ 5108.00ft (ENSIGN 139)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

**Survey**

| Measured Depth (ft)                   | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---------------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 8,406.00                              | 2.08            | 168.21      | 8,250.47            | 641.58     | -743.69    | 982.19                | 0.24                  | 0.11                 | 5.87                |
| 8,496.00                              | 1.99            | 155.07      | 8,340.41            | 638.56     | -742.70    | 979.47                | 0.53                  | -0.10                | -14.60              |
| 8,586.00                              | 1.92            | 155.31      | 8,430.36            | 635.77     | -741.41    | 976.67                | 0.08                  | -0.08                | 0.27                |
| 8,677.00                              | 1.87            | 138.06      | 8,521.31            | 633.28     | -739.78    | 973.81                | 0.63                  | -0.05                | -18.96              |
| 8,767.00                              | 2.00            | 138.36      | 8,611.26            | 631.02     | -737.76    | 970.80                | 0.14                  | 0.14                 | 0.33                |
| <b>LAST SDI MWD PRODUCTION SURVEY</b> |                 |             | 48<br>563           |            |            |                       |                       |                      |                     |
| 8,785.00                              | 2.00            | 138.36      | 8,629.25            | 630.55     | -737.34    | 970.17                | 0.00                  | 0.00                 | 0.00                |
| <b>SDI PROJECTION TO TD</b>           |                 |             |                     |            |            |                       |                       |                      |                     |

**Design Annotations**

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            | Comment                         |
|---------------------|---------------------|-------------------|------------|---------------------------------|
|                     |                     | +N/-S (ft)        | +E/-W (ft) |                                 |
| 186.00              | 185.99              | -1.28             | -0.15      | FIRST WFT MWD SURFACE SURVEY    |
| 2,211.00            | 2,135.19            | 305.65            | -353.85    | LAST WFT MWD SURFACE SURVEY     |
| 2,249.00            | 2,170.32            | 313.83            | -365.79    | FIRST SDI MWD PRODUCTION SURVEY |
| 8,767.00            | 8,611.26            | 631.02            | -737.76    | LAST SDI MWD PRODUCTION SURVEY  |
| 8,785.00            | 8,629.25            | 630.55            | -737.34    | SDI PROJECTION TO TD            |

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



**Scientific Drilling**  
Rocky Mountain Operations

## **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N

NBU 1022-10N PAD

NBU 1022-10M1DS

OH

Design: OH

## **Survey Report - Geographic**

29 December, 2011

**Anadarko**   
Petroleum Corporation

|                  |                                    |                                     |   |
|------------------|------------------------------------|-------------------------------------|---|
| <b>Company:</b>  | US ROCKIES REGION PLANNING         | <b>Local Co-ordinate Reference:</b> | Well NBU 1022-10M1DS                    |
| <b>Project:</b>  | UTAH - UTM (feet), NAD27, Zone 12N | <b>TVD Reference:</b>               | GL 5094 & KB 14 @ 5108.00ft (ENSGN 139) |
| <b>Site:</b>     | NBU 1022-10N PAD                   | <b>MD Reference:</b>                | GL 5094 & KB 14 @ 5108.00ft (ENSGN 139) |
| <b>Well:</b>     | NBU 1022-10M1DS                    | <b>North Reference:</b>             | True                                    |
| <b>Wellbore:</b> | OH                                 | <b>Survey Calculation Method:</b>   | Minimum Curvature                       |
| <b>Design:</b>   | OH                                 | <b>Database:</b>                    | EDM5000-RobertS-Local                   |

|                    |  |                      |                |
|--------------------|--|----------------------|----------------|
| <b>Project</b>     | UTAH - UTM (feet), NAD27, Zone 12N             |                      |                |
| <b>Map System:</b> | Universal Transverse Mercator (US Survey Feet) | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | NAD 1927 (NADCON CONUS)                        |                      |                |
| <b>Map Zone:</b>   | Zone 12N (114 W to 108 W)                      |                      |                |

|                              |  |                     |                    |                                     |
|------------------------------|--|---------------------|--------------------|-------------------------------------|
| <b>Site</b>                  | NBU 1022-10N PAD, SECTION 10 T10S R22E |                     |                    |                                     |
| <b>Site Position:</b>        |  | <b>Northing:</b>    | 14,514,189.75 usft | <b>Latitude:</b> 39° 57' 24.431 N   |
| <b>From:</b>                 | Lat/Long                               | <b>Easting:</b>     | 2,080,908.25 usft  | <b>Longitude:</b> 109° 25' 41.407 W |
| <b>Position Uncertainty:</b> | 0.00 ft                                | <b>Slot Radius:</b> | 13.200 in          | <b>Grid Convergence:</b> 1.01 °     |

|                             |                                     |                            |                                     |                                     |
|-----------------------------|-------------------------------------|----------------------------|-------------------------------------|-------------------------------------|
| <b>Well</b>                 | NBU 1022-10M1DS, 167' FSL 1765' FWL |                            |                                     |                                     |
| <b>Well Position</b>        | +N/-S                               | 0.00 ft                    | <b>Northing:</b> 14,514,168.82 usft | <b>Latitude:</b> 39° 57' 24.234 N   |
|                             | +E/-W                               | 0.00 ft                    | <b>Easting:</b> 2,080,851.88 usft   | <b>Longitude:</b> 109° 25' 42.136 W |
| <b>Position Uncertainty</b> | 0.00 ft                             | <b>Wellhead Elevation:</b> | ft                                  | <b>Ground Level:</b> 5,094.00 ft    |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | OH                |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2010          | 2011/09/26         | 11.00                  | 65.84                | 52,286                     |

|                          |                              |                   |                   |                      |      |
|--------------------------|------------------------------|-------------------|-------------------|----------------------|------|
| <b>Design</b>            | OH                           |                   |                   |                      |      |
| <b>Audit Notes:</b>      |                              |                   |                   |                      |      |
| <b>Version:</b>          | 1.0                          | <b>Phase:</b>     | ACTUAL            | <b>Tie On Depth:</b> | 0.00 |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b> | <b>Direction (°)</b> |      |
|                          | 0.00                         | 0.00              | 0.00              | 310.82               |      |

|                       |                        |                                   |                  |                              |  |
|-----------------------|------------------------|-----------------------------------|------------------|------------------------------|--|
| <b>Survey Program</b> | <b>Date</b> 2011/12/29 |                                   |                  |                              |  |
| <b>From (ft)</b>      | <b>To (ft)</b>         | <b>Survey (Wellbore)</b>          | <b>Tool Name</b> | <b>Description</b>           |  |
| 10.00                 | 2,211.00               | Survey #1 WFT MWD SURFACE (OH)    | MWD              | MWD - Standard               |  |
| 2,249.00              | 8,785.00               | Survey #2 SDI MWD PRODUCTION (OH) | SDI MWD          | SDI MWD - Standard ver 1.0.1 |  |

|                                     |                        |                    |                            |                   |                   |                            |                           |                  |                   |
|-------------------------------------|------------------------|--------------------|----------------------------|-------------------|-------------------|----------------------------|---------------------------|------------------|-------------------|
| <b>Survey</b>                       |                        |                    |                            |                   |                   |                            |                           |                  |                   |
| <b>Measured Depth (ft)</b>          | <b>Inclination (°)</b> | <b>Azimuth (°)</b> | <b>Vertical Depth (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b> | <b>Map Northing (usft)</b> | <b>Map Easting (usft)</b> | <b>Latitude</b>  | <b>Longitude</b>  |
| 0.00                                | 0.00                   | 0.00               | 0.00                       | 0.00              | 0.00              | 14,514,168.82              | 2,080,851.88              | 39° 57' 24.234 N | 109° 25' 42.136 W |
| 10.00                               | 0.00                   | 0.00               | 10.00                      | 0.00              | 0.00              | 14,514,168.82              | 2,080,851.88              | 39° 57' 24.234 N | 109° 25' 42.136 W |
| 186.00                              | 0.84                   | 186.63             | 185.99                     | -1.28             | -0.15             | 14,514,167.54              | 2,080,851.76              | 39° 57' 24.221 N | 109° 25' 42.138 W |
| <b>FIRST WFT MWD SURFACE SURVEY</b> |                        |                    |                            |                   |                   |                            |                           |                  |                   |
| 272.00                              | 1.08                   | 237.28             | 271.98                     | -2.35             | -0.90             | 14,514,166.46              | 2,080,851.02              | 39° 57' 24.211 N | 109° 25' 42.147 W |
| 358.00                              | 1.73                   | 278.42             | 357.96                     | -2.59             | -2.87             | 14,514,166.18              | 2,080,849.06              | 39° 57' 24.208 N | 109° 25' 42.172 W |
| 448.00                              | 2.94                   | 307.80             | 447.89                     | -0.98             | -6.04             | 14,514,167.74              | 2,080,845.86              | 39° 57' 24.224 N | 109° 25' 42.213 W |
| 538.00                              | 4.25                   | 311.80             | 537.71                     | 2.66              | -10.35            | 14,514,171.30              | 2,080,841.49              | 39° 57' 24.260 N | 109° 25' 42.268 W |
| 628.00                              | 5.44                   | 313.05             | 627.38                     | 7.79              | -15.95            | 14,514,176.33              | 2,080,835.80              | 39° 57' 24.311 N | 109° 25' 42.340 W |
| 718.00                              | 5.81                   | 315.43             | 716.95                     | 13.95             | -22.27            | 14,514,182.38              | 2,080,829.37              | 39° 57' 24.372 N | 109° 25' 42.422 W |
| 808.00                              | 8.14                   | 319.00             | 806.28                     | 22.01             | -29.64            | 14,514,190.30              | 2,080,821.86              | 39° 57' 24.452 N | 109° 25' 42.516 W |

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** NBU 1022-10N PAD  
**Well:** NBU 1022-10M1DS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1022-10M1DS  
**TVD Reference:** GL 5094 & KB 14 @ 5108.00ft (ENSGN 139)  
**MD Reference:** GL 5094 & KB 14 @ 5108.00ft (ENSGN 139)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

**Survey**

| Measured Depth (ft)                    | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N-S (ft) | +E-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude         | Longitude         |
|--|-----------------|-------------|---------------------|-----------|-----------|---------------------|--------------------|------------------|-------------------|
| 898.00                                 | 9.06            | 320.05      | 895.27              | 32.25     | -38.37    | 14,514,200.39       | 2,080,812.95       | 39° 57' 24.553 N | 109° 25' 42.628 W |
| 988.00                                 | 10.25           | 314.68      | 983.99              | 43.31     | -48.62    | 14,514,211.27       | 2,080,802.51       | 39° 57' 24.662 N | 109° 25' 42.760 W |
| 1,078.00                               | 11.81           | 314.93      | 1,072.33            | 55.45     | -60.83    | 14,514,223.19       | 2,080,790.08       | 39° 57' 24.782 N | 109° 25' 42.917 W |
| 1,168.00                               | 14.25           | 314.68      | 1,160.00            | 69.74     | -75.23    | 14,514,237.23       | 2,080,775.43       | 39° 57' 24.923 N | 109° 25' 43.102 W |
| 1,258.00                               | 15.31           | 311.18      | 1,247.02            | 85.35     | -92.05    | 14,514,252.54       | 2,080,758.34       | 39° 57' 25.078 N | 109° 25' 43.318 W |
| 1,348.00                               | 16.38           | 310.55      | 1,333.60            | 101.43    | -110.64   | 14,514,268.29       | 2,080,739.47       | 39° 57' 25.237 N | 109° 25' 43.557 W |
| 1,438.00                               | 17.81           | 314.68      | 1,419.63            | 119.36    | -130.07   | 14,514,285.87       | 2,080,719.73       | 39° 57' 25.414 N | 109° 25' 43.806 W |
| 1,528.00                               | 20.31           | 314.55      | 1,504.69            | 140.00    | -150.99   | 14,514,306.14       | 2,080,698.45       | 39° 57' 25.618 N | 109° 25' 44.075 W |
| 1,618.00                               | 20.69           | 311.93      | 1,588.99            | 161.58    | -173.95   | 14,514,327.31       | 2,080,675.11       | 39° 57' 25.831 N | 109° 25' 44.370 W |
| 1,708.00                               | 21.56           | 310.68      | 1,672.94            | 182.98    | -198.32   | 14,514,348.28       | 2,080,650.37       | 39° 57' 26.043 N | 109° 25' 44.683 W |
| 1,798.00                               | 22.25           | 309.43      | 1,756.44            | 204.58    | -224.02   | 14,514,369.43       | 2,080,624.29       | 39° 57' 26.256 N | 109° 25' 45.013 W |
| 1,888.00                               | 23.13           | 310.05      | 1,839.48            | 226.78    | -250.71   | 14,514,391.15       | 2,080,597.21       | 39° 57' 26.476 N | 109° 25' 45.356 W |
| 1,978.00                               | 24.56           | 309.30      | 1,921.79            | 250.00    | -278.72   | 14,514,413.88       | 2,080,568.80       | 39° 57' 26.705 N | 109° 25' 45.715 W |
| 2,068.00                               | 23.81           | 307.18      | 2,003.89            | 272.83    | -307.67   | 14,514,436.19       | 2,080,539.45       | 39° 57' 26.931 N | 109° 25' 46.087 W |
| 2,158.00                               | 23.25           | 304.68      | 2,086.41            | 293.92    | -336.75   | 14,514,456.76       | 2,080,510.00       | 39° 57' 27.139 N | 109° 25' 46.461 W |
| 2,211.00                               | 22.81           | 304.27      | 2,135.19            | 305.65    | -353.85   | 14,514,468.19       | 2,080,492.71       | 39° 57' 27.255 N | 109° 25' 46.680 W |
| <b>LAST WFT MWD SURFACE SURVEY</b>     |                 |             |                     |           |           |                     |                    |                  |                   |
| 2,249.00                               | 21.98           | 304.54      | 2,170.32            | 313.83    | -365.79   | 14,514,476.16       | 2,080,480.62       | 39° 57' 27.336 N | 109° 25' 46.834 W |
| <b>FIRST SDI MWD PRODUCTION SURVEY</b> |                 |             |                     |           |           |                     |                    |                  |                   |
| 2,340.00                               | 20.93           | 304.84      | 2,255.01            | 332.77    | -393.16   | 14,514,494.62       | 2,080,452.92       | 39° 57' 27.523 N | 109° 25' 47.185 W |
| 2,430.00                               | 20.67           | 305.03      | 2,339.15            | 351.07    | -419.36   | 14,514,512.46       | 2,080,426.40       | 39° 57' 27.704 N | 109° 25' 47.522 W |
| 2,520.00                               | 20.85           | 312.10      | 2,423.32            | 370.93    | -444.26   | 14,514,531.87       | 2,080,401.16       | 39° 57' 27.900 N | 109° 25' 47.841 W |
| 2,611.00                               | 22.86           | 315.40      | 2,507.78            | 394.38    | -468.69   | 14,514,554.88       | 2,080,376.32       | 39° 57' 28.132 N | 109° 25' 48.155 W |
| 2,701.00                               | 24.73           | 315.20      | 2,590.12            | 420.19    | -494.23   | 14,514,580.24       | 2,080,350.33       | 39° 57' 28.387 N | 109° 25' 48.483 W |
| 2,792.00                               | 23.92           | 313.34      | 2,673.05            | 446.36    | -521.06   | 14,514,605.93       | 2,080,323.04       | 39° 57' 28.646 N | 109° 25' 48.828 W |
| 2,882.00                               | 22.05           | 311.76      | 2,755.90            | 470.13    | -546.93   | 14,514,629.25       | 2,080,296.75       | 39° 57' 28.881 N | 109° 25' 49.160 W |
| 2,973.00                               | 19.89           | 313.36      | 2,840.87            | 492.14    | -570.93   | 14,514,650.83       | 2,080,272.37       | 39° 57' 29.098 N | 109° 25' 49.469 W |
| 3,063.00                               | 16.78           | 311.82      | 2,926.29            | 511.32    | -591.75   | 14,514,669.64       | 2,080,251.22       | 39° 57' 29.288 N | 109° 25' 49.736 W |
| 3,154.00                               | 16.24           | 313.65      | 3,013.54            | 528.86    | -610.75   | 14,514,686.84       | 2,080,231.91       | 39° 57' 29.461 N | 109° 25' 49.980 W |
| 3,245.00                               | 15.47           | 314.70      | 3,101.07            | 546.18    | -628.58   | 14,514,703.84       | 2,080,213.78       | 39° 57' 29.633 N | 109° 25' 50.209 W |
| 3,335.00                               | 13.41           | 313.35      | 3,188.23            | 561.79    | -644.70   | 14,514,719.17       | 2,080,197.38       | 39° 57' 29.787 N | 109° 25' 50.416 W |
| 3,425.00                               | 12.56           | 313.20      | 3,275.92            | 575.65    | -659.43   | 14,514,732.77       | 2,080,182.42       | 39° 57' 29.924 N | 109° 25' 50.605 W |
| 3,516.00                               | 9.19            | 316.11      | 3,365.28            | 587.67    | -671.68   | 14,514,744.56       | 2,080,169.95       | 39° 57' 30.043 N | 109° 25' 50.763 W |
| 3,607.00                               | 7.98            | 317.95      | 3,455.26            | 597.59    | -680.95   | 14,514,754.33       | 2,080,160.51       | 39° 57' 30.141 N | 109° 25' 50.882 W |
| 3,697.00                               | 7.38            | 324.94      | 3,544.45            | 606.97    | -688.45   | 14,514,763.56       | 2,080,152.84       | 39° 57' 30.233 N | 109° 25' 50.978 W |
| 3,788.00                               | 7.97            | 322.97      | 3,634.63            | 616.79    | -695.61   | 14,514,773.26       | 2,080,145.51       | 39° 57' 30.330 N | 109° 25' 51.070 W |
| 3,878.00                               | 5.80            | 321.02      | 3,723.98            | 625.30    | -702.23   | 14,514,781.66       | 2,080,138.75       | 39° 57' 30.415 N | 109° 25' 51.155 W |
| 3,969.00                               | 5.63            | 320.19      | 3,814.53            | 632.31    | -707.98   | 14,514,788.56       | 2,080,132.87       | 39° 57' 30.484 N | 109° 25' 51.229 W |
| 4,060.00                               | 4.04            | 309.95      | 3,905.20            | 637.79    | -713.30   | 14,514,793.95       | 2,080,127.46       | 39° 57' 30.538 N | 109° 25' 51.297 W |
| 4,150.00                               | 2.23            | 297.07      | 3,995.07            | 640.63    | -717.29   | 14,514,796.71       | 2,080,123.42       | 39° 57' 30.566 N | 109° 25' 51.348 W |
| 4,241.00                               | 1.00            | 320.38      | 4,086.03            | 642.04    | -719.37   | 14,514,798.09       | 2,080,121.31       | 39° 57' 30.580 N | 109° 25' 51.375 W |
| 4,332.00                               | 1.04            | 325.13      | 4,177.01            | 643.33    | -720.35   | 14,514,799.36       | 2,080,120.31       | 39° 57' 30.593 N | 109° 25' 51.388 W |
| 4,422.00                               | 0.81            | 326.48      | 4,267.00            | 644.53    | -721.17   | 14,514,800.55       | 2,080,119.47       | 39° 57' 30.605 N | 109° 25' 51.398 W |
| 4,513.00                               | 0.80            | 318.91      | 4,357.99            | 645.55    | -721.94   | 14,514,801.55       | 2,080,118.68       | 39° 57' 30.615 N | 109° 25' 51.408 W |
| 4,603.00                               | 0.80            | 322.36      | 4,447.98            | 646.52    | -722.74   | 14,514,802.51       | 2,080,117.87       | 39° 57' 30.624 N | 109° 25' 51.418 W |
| 4,694.00                               | 0.91            | 337.39      | 4,538.97            | 647.69    | -723.40   | 14,514,803.67       | 2,080,117.18       | 39° 57' 30.636 N | 109° 25' 51.427 W |
| 4,784.00                               | 1.00            | 312.88      | 4,628.96            | 648.88    | -724.25   | 14,514,804.85       | 2,080,116.31       | 39° 57' 30.648 N | 109° 25' 51.438 W |
| 4,875.00                               | 0.78            | 322.52      | 4,719.95            | 649.92    | -725.21   | 14,514,805.86       | 2,080,115.34       | 39° 57' 30.658 N | 109° 25' 51.450 W |
| 4,965.00                               | 0.96            | 323.70      | 4,809.94            | 651.01    | -726.03   | 14,514,806.94       | 2,080,114.50       | 39° 57' 30.669 N | 109° 25' 51.461 W |
| 5,056.00                               | 1.06            | 338.11      | 4,900.93            | 652.41    | -726.79   | 14,514,808.32       | 2,080,113.71       | 39° 57' 30.682 N | 109° 25' 51.470 W |
| 5,147.00                               | 0.95            | 343.74      | 4,991.91            | 653.91    | -727.32   | 14,514,809.82       | 2,080,113.16       | 39° 57' 30.697 N | 109° 25' 51.477 W |
| 5,237.00                               | 1.31            | 285.72      | 5,081.90            | 654.91    | -728.52   | 14,514,810.79       | 2,080,111.94       | 39° 57' 30.707 N | 109° 25' 51.493 W |
| 5,328.00                               | 1.33            | 282.48      | 5,172.87            | 655.42    | -730.55   | 14,514,811.27       | 2,080,109.90       | 39° 57' 30.712 N | 109° 25' 51.519 W |
| 5,418.00                               | 1.21            | 275.78      | 5,262.85            | 655.74    | -732.52   | 14,514,811.55       | 2,080,107.93       | 39° 57' 30.715 N | 109° 25' 51.544 W |
| 5,509.00                               | 1.11            | 272.11      | 5,353.83            | 655.87    | -734.35   | 14,514,811.65       | 2,080,106.09       | 39° 57' 30.717 N | 109° 25' 51.568 W |

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** NBU 1022-10N PAD  
**Well:** NBU 1022-10M1DS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 1022-10M1DS  
**TVD Reference:** GL 5094 & KB 14 @ 5108.00ft (ENSIGN 139)  
**MD Reference:** GL 5094 & KB 14 @ 5108.00ft (ENSIGN 139)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

**Survey**

| Measured Depth (ft)                   | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude         | Longitude         |
|---------------------------------------|-----------------|-------------|---------------------|------------|------------|---------------------|--------------------|------------------|-------------------|
| 5,599.00                              | 1.25            | 270.75      | 5,443.81            | 655.91     | -736.21    | 14,514,811.66       | 2,080,104.24       | 39° 57' 30.717 N | 109° 25' 51.591 W |
| 5,690.00                              | 1.14            | 265.71      | 5,534.79            | 655.86     | -738.10    | 14,514,811.57       | 2,080,102.34       | 39° 57' 30.717 N | 109° 25' 51.616 W |
| 5,780.00                              | 0.90            | 262.82      | 5,624.78            | 655.70     | -739.70    | 14,514,811.39       | 2,080,100.75       | 39° 57' 30.715 N | 109° 25' 51.636 W |
| 5,871.00                              | 0.83            | 276.22      | 5,715.77            | 655.68     | -741.06    | 14,514,811.35       | 2,080,099.39       | 39° 57' 30.715 N | 109° 25' 51.654 W |
| 5,961.00                              | 0.71            | 266.83      | 5,805.76            | 655.72     | -742.26    | 14,514,811.37       | 2,080,098.18       | 39° 57' 30.715 N | 109° 25' 51.669 W |
| 6,052.00                              | 0.61            | 256.39      | 5,896.76            | 655.58     | -743.30    | 14,514,811.20       | 2,080,097.15       | 39° 57' 30.714 N | 109° 25' 51.682 W |
| 6,142.00                              | 0.34            | 241.10      | 5,986.75            | 655.34     | -744.00    | 14,514,810.95       | 2,080,096.46       | 39° 57' 30.711 N | 109° 25' 51.691 W |
| 6,233.00                              | 0.07            | 209.06      | 6,077.75            | 655.16     | -744.26    | 14,514,810.77       | 2,080,096.20       | 39° 57' 30.710 N | 109° 25' 51.695 W |
| 6,323.00                              | 0.07            | 96.23       | 6,167.75            | 655.10     | -744.23    | 14,514,810.71       | 2,080,096.22       | 39° 57' 30.709 N | 109° 25' 51.694 W |
| 6,414.00                              | 0.31            | 104.25      | 6,258.75            | 655.04     | -743.94    | 14,514,810.65       | 2,080,096.52       | 39° 57' 30.708 N | 109° 25' 51.691 W |
| 6,504.00                              | 0.48            | 132.96      | 6,348.75            | 654.72     | -743.43    | 14,514,810.34       | 2,080,097.04       | 39° 57' 30.705 N | 109° 25' 51.684 W |
| 6,595.00                              | 0.77            | 109.16      | 6,439.74            | 654.26     | -742.57    | 14,514,809.90       | 2,080,097.90       | 39° 57' 30.701 N | 109° 25' 51.673 W |
| 6,685.00                              | 0.83            | 108.94      | 6,529.73            | 653.85     | -741.38    | 14,514,809.51       | 2,080,099.10       | 39° 57' 30.697 N | 109° 25' 51.658 W |
| 6,776.00                              | 1.08            | 102.26      | 6,620.72            | 653.45     | -739.92    | 14,514,809.14       | 2,080,100.56       | 39° 57' 30.693 N | 109° 25' 51.639 W |
| 6,866.00                              | 1.11            | 95.81       | 6,710.71            | 653.18     | -738.23    | 14,514,808.90       | 2,080,102.27       | 39° 57' 30.690 N | 109° 25' 51.617 W |
| 6,957.00                              | 0.71            | 86.36       | 6,801.69            | 653.13     | -736.79    | 14,514,808.87       | 2,080,103.71       | 39° 57' 30.690 N | 109° 25' 51.599 W |
| 7,047.00                              | 0.91            | 301.16      | 6,891.69            | 653.54     | -736.84    | 14,514,809.28       | 2,080,103.64       | 39° 57' 30.694 N | 109° 25' 51.599 W |
| 7,138.00                              | 0.86            | 290.84      | 6,982.68            | 654.15     | -738.10    | 14,514,809.87       | 2,080,102.38       | 39° 57' 30.700 N | 109° 25' 51.616 W |
| 7,228.00                              | 0.77            | 303.44      | 7,072.67            | 654.73     | -739.23    | 14,514,810.42       | 2,080,101.23       | 39° 57' 30.705 N | 109° 25' 51.630 W |
| 7,319.00                              | 0.47            | 302.50      | 7,163.66            | 655.26     | -740.06    | 14,514,810.95       | 2,080,100.40       | 39° 57' 30.711 N | 109° 25' 51.641 W |
| 7,409.00                              | 0.45            | 273.17      | 7,253.66            | 655.48     | -740.72    | 14,514,811.15       | 2,080,099.73       | 39° 57' 30.713 N | 109° 25' 51.649 W |
| 7,500.00                              | 0.27            | 240.54      | 7,344.66            | 655.40     | -741.27    | 14,514,811.06       | 2,080,099.19       | 39° 57' 30.712 N | 109° 25' 51.656 W |
| 7,590.00                              | 0.55            | 256.49      | 7,434.66            | 655.19     | -741.87    | 14,514,810.84       | 2,080,098.59       | 39° 57' 30.710 N | 109° 25' 51.664 W |
| 7,681.00                              | 0.57            | 238.26      | 7,525.65            | 654.85     | -742.68    | 14,514,810.49       | 2,080,097.78       | 39° 57' 30.707 N | 109° 25' 51.674 W |
| 7,771.00                              | 0.50            | 261.47      | 7,615.65            | 654.56     | -743.45    | 14,514,810.18       | 2,080,097.02       | 39° 57' 30.704 N | 109° 25' 51.684 W |
| 7,862.00                              | 0.32            | 235.17      | 7,706.65            | 654.35     | -744.05    | 14,514,809.97       | 2,080,096.42       | 39° 57' 30.702 N | 109° 25' 51.692 W |
| 7,952.00                              | 0.64            | 198.33      | 7,796.64            | 653.73     | -744.41    | 14,514,809.34       | 2,080,096.07       | 39° 57' 30.696 N | 109° 25' 51.697 W |
| 8,043.00                              | 1.16            | 180.60      | 7,887.63            | 652.33     | -744.58    | 14,514,807.93       | 2,080,095.92       | 39° 57' 30.682 N | 109° 25' 51.699 W |
| 8,133.00                              | 1.54            | 187.22      | 7,977.61            | 650.22     | -744.75    | 14,514,805.82       | 2,080,095.80       | 39° 57' 30.661 N | 109° 25' 51.701 W |
| 8,225.00                              | 1.77            | 181.00      | 8,069.57            | 647.57     | -744.93    | 14,514,803.17       | 2,080,095.66       | 39° 57' 30.635 N | 109° 25' 51.703 W |
| 8,315.00                              | 1.98            | 162.87      | 8,159.52            | 644.70     | -744.49    | 14,514,800.30       | 2,080,096.15       | 39° 57' 30.606 N | 109° 25' 51.698 W |
| 8,406.00                              | 2.08            | 168.21      | 8,250.47            | 641.58     | -743.69    | 14,514,797.20       | 2,080,097.00       | 39° 57' 30.575 N | 109° 25' 51.687 W |
| 8,496.00                              | 1.99            | 155.07      | 8,340.41            | 638.56     | -742.70    | 14,514,794.20       | 2,080,098.05       | 39° 57' 30.546 N | 109° 25' 51.675 W |
| 8,586.00                              | 1.92            | 155.31      | 8,430.36            | 635.77     | -741.41    | 14,514,791.44       | 2,080,099.39       | 39° 57' 30.518 N | 109° 25' 51.658 W |
| 8,677.00                              | 1.87            | 138.06      | 8,521.31            | 633.28     | -739.78    | 14,514,788.98       | 2,080,101.06       | 39° 57' 30.493 N | 109° 25' 51.637 W |
| 8,767.00                              | 2.00            | 138.36      | 8,611.26            | 631.02     | -737.76    | 14,514,786.75       | 2,080,103.12       | 39° 57' 30.471 N | 109° 25' 51.611 W |
| <b>LAST SDI MWD PRODUCTION SURVEY</b> |                 |             |                     |            |            |                     |                    |                  |                   |
| 8,785.00                              | 2.00            | 138.36      | 8,629.25            | 630.55     | -737.34    | 14,514,786.28       | 2,080,103.55       | 39° 57' 30.466 N | 109° 25' 51.606 W |
| <b>SDI PROJECTION TO TD</b>           |                 |             |                     |            |            |                     |                    |                  |                   |

**Design Annotations**

| Measured Depth (ft) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Comment                         |
|---------------------|---------------------|------------|------------|---------------------------------|
| 186.00              | 185.99              | -1.28      | -0.15      | FIRST WFT MWD SURFACE SURVEY    |
| 2,211.00            | 2,135.19            | 305.65     | -353.85    | LAST WFT MWD SURFACE SURVEY     |
| 2,249.00            | 2,170.32            | 313.83     | -365.79    | FIRST SDI MWD PRODUCTION SURVEY |
| 8,767.00            | 8,611.26            | 631.02     | -737.76    | LAST SDI MWD PRODUCTION SURVEY  |
| 8,785.00            | 8,629.25            | 630.55     | -737.34    | SDI PROJECTION TO TD            |

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

|   |   |  |
|---|---|--|
| <b>STATE OF UTAH</b><br>DEPARTMENT OF NATURAL RESOURCES<br>DIVISION OF OIL, GAS, AND MINING   |   | <b>FORM 9</b>  |
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b><br><br>Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.  |   | <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b><br>UTU 01196C |
| <b>1. TYPE OF WELL</b><br>Gas Well  |   | <b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>                 |
| <b>2. NAME OF OPERATOR:</b><br>KERR-MCGEE OIL & GAS ONSHORE, L.P.   |   | <b>7. UNIT or CA AGREEMENT NAME:</b><br>NATURAL BUTTES       |
| <b>3. ADDRESS OF OPERATOR:</b><br>P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779   |   | <b>8. WELL NAME and NUMBER:</b><br>NBU 1022-10M1DS           |
| <b>4. LOCATION OF WELL</b><br><b>FOOTAGES AT SURFACE:</b><br>0167 FSL 1765 FWL<br><b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b><br>Qtr/Qtr: SESW Section: 10 Township: 10.0S Range: 22.0E Meridian: S   |   | <b>9. API NUMBER:</b><br>43047506360000                      |
| <b>PHONE NUMBER:</b><br>720 929-6454  |   | <b>9. FIELD and POOL or WILDCAT:</b><br>NATURAL BUTTES       |
| <b>COUNTY:</b><br>UINTAH  |   | <b>STATE:</b><br>UTAH  |
| 11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA   |   |  |
| <b>TYPE OF SUBMISSION</b>   | <b>TYPE OF ACTION</b>                                   |  |
| <input type="checkbox"/> NOTICE OF INTENT<br>Approximate date work will start:  | <input type="checkbox"/> ACIDIZE                        |  |
| <input checked="" type="checkbox"/> SUBSEQUENT REPORT<br>Date of Work Completion:<br>7/22/2016  | <input type="checkbox"/> ALTER CASING                   |  |
| <input type="checkbox"/> SPUD REPORT<br>Date of Spud:   | <input type="checkbox"/> CASING REPAIR                  |  |
| <input type="checkbox"/> DRILLING REPORT<br>Report Date:  | <input type="checkbox"/> CHANGE TO PREVIOUS PLANS       |  |
|   | <input type="checkbox"/> CHANGE WELL STATUS             |  |
|   | <input type="checkbox"/> CHANGE TUBING                  |  |
|   | <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS |  |
|   | <input type="checkbox"/> CONVERT WELL TYPE              |  |
|   | <input type="checkbox"/> DEEPEN                         |  |
|   | <input type="checkbox"/> FRACTURE TREAT                 |  |
|   | <input type="checkbox"/> NEW CONSTRUCTION               |  |
|   | <input type="checkbox"/> OPERATOR CHANGE                |  |
|   | <input type="checkbox"/> PLUG AND ABANDON               |  |
|   | <input type="checkbox"/> PLUG BACK                      |  |
|   | <input type="checkbox"/> PRODUCTION START OR RESUME     |  |
|   | <input type="checkbox"/> RECLAMATION OF WELL SITE       |  |
|   | <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION |  |
|   | <input type="checkbox"/> REPERFORATE CURRENT FORMATION  |  |
|   | <input type="checkbox"/> SIDETRACK TO REPAIR WELL       |  |
|   | <input type="checkbox"/> TEMPORARY ABANDON              |  |
|   | <input type="checkbox"/> TUBING REPAIR                  |  |
|   | <input type="checkbox"/> VENT OR FLARE                  |  |
|   | <input type="checkbox"/> WATER DISPOSAL                 |  |
|   | <input type="checkbox"/> WATER SHUTOFF                  |  |
|   | <input type="checkbox"/> SI TA STATUS EXTENSION         |  |
|   | <input type="checkbox"/> WILDCAT WELL DETERMINATION     |  |
|   | <input checked="" type="checkbox"/> OTHER               |  |
|   | OTHER: <input type="text" value="WORKOVER"/>            |  |
| 12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.<br><div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 60%;"> <p style="text-align: center; font-size: 1.2em;">A WELLBORE CLEANOUT HAS BEEN COMPLETED ON THE NBU 1022-10M1DS WELL. PLEASE SEE THE ATTACHED OPERATIONS SUMMARY REPORT FOR DETAILS.</p> </div> <div style="width: 35%; text-align: center;"> <p><b>Accepted by the</b><br/> <b>Utah Division of</b><br/> <b>Oil, Gas and Mining</b><br/> <b>FOR RECORD ONLY</b><br/> <b>August 08, 2016</b></p> </div> </div> |   |  |
| <b>NAME (PLEASE PRINT)</b><br>Candice Barber  | <b>PHONE NUMBER</b><br>435 781-9749                     | <b>TITLE</b><br>HSE Representative                           |
| <b>SIGNATURE</b><br>N/A   | <b>DATE</b><br>8/8/2016                                 |  |



**US ROCKIES REGION**  
**Operation Summary Report**

| Well: NBU 1022-10M1DS GREEN                            |                   |                  |        | Spud Conductor: 8/23/2011                              |             |     |                   | Spud date: 9/17/2011  |  |
|--|-------------------|------------------|--------|--|-------------|-----|-------------------|---|--|
| Project: UTAH-UINTAH                                   |                   |                  |        | Site: NBU 1022-10N PAD                                 |             |     |                   | Rig name no.: MILES 2/2   |  |
| Event: WELL WORK EXPENSE                               |                   |                  |        | Start date: 7/20/2016                                  |             |     |                   | End date: 7/22/2016   |  |
| Active datum: RKB @5,108.00usft (above Mean Sea Level) |                   |                  |        | UWI: SE/SW/0/10/S/22/E/10/0/0/26/PM/S/167/W/0/1765/0/0 |             |     |                   |   |  |
| Date   | Time<br>Start-End | Duration<br>(hr) | Phase  | Code   | Sub<br>Code | P/U | MD from<br>(usft) | Operation   |  |
| 7/20/2016  | 10:00 - 10:15     | 0.25             | MAINT  | 48   |             | P   |                   | HSM/JSA   |  |
|  | 10:15 - 17:00     | 6.75             | MAINT  | 31   | S           | P   |                   | BH 20PSI, CSG 91PSI. MIRU, JSA. TAG FILL @ 8623'.<br>POOH WITH SCANTECH, HOLE JT 252, HEAVY<br>SCALE FROM JT 215. COLLECT SAMPLE. 116<br>YELLOW 143 RED JTS. RIH WITH MILL, TIH 20 JTS<br>TO 646'. SIW, LOCK BOPS.  |  |
| 7/21/2016  | 7:00 - 7:15       | 0.25             | MAINT  | 48   |             | P   |                   | HSM/JSA   |  |
|  | 7:15 - 17:00      | 9.75             | MAINT  | 44   | D           | P   |                   | SICP 400PSI, PUMP 5 BBL DOWN TUBING. TIH W/<br>MILL. TAG FILL 2 JT 215, 6810' SAME DEPTH AS<br>MAJOR SCALE SEEN ON TBG. C/O FROM 6810 TO<br>7110. FELL THROUGH TO 7300'. RIH 16 JT, TAG @<br>7964'. POOH AND CIRC, EOT @ 6730, 1 JT ABOVE<br>TOP PERF. SB 38 JTS.   |  |
| 7/22/2016  | 7:00 - 17:00      | 10.00            | WO/REP | 44   | D           | P   |                   | HSM<br>RIH & TAG SCALE @ 8626', R/U AF/N2 UNIT & BRKI<br>CIRC. CONT TO C/O SCALE TO 8718' . CIRC WELL<br>CLEAN. S/D N2 UNIT. POOH W/ TBG. REMOVE<br>POBS. P/U R-PROFILE S.N. & RIH W/ PROD TBG.<br>LAND TBG W/ EOT @ 8253.69' . BLOW WELL<br>AROUND W/ AF/N2 UNIT. SWI. RDMO. ALERT IOC<br>TO PURGE IN A.M.   |  |
| 7/26/2016  | 7:00 - 17:00      | 10.00            | PROD   | 42   |             | P   |                   | Arrived to location, rigged up and blew tubing<br>pressure down. Started swabbing made 7 runs,<br>fluid level was at 5000 ft, recovered 44 bbls.<br>Swabbed well back on, it unloaded for a while,<br>operator brought a scale knocker to drop, so we did<br>and he wanted me to stay for 2 trips, so we did and<br>it came up in 11 minutes. set well back on sales and<br>headed back to the shop |  |